A Bibliography of The World Literature on

BLOOD PRESSURE 1920-1950

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Volume III
(Abstracts)

The Commonwealth of Massachusetts



The Commonwealth of Massachusetts

THE RECESS COMMISSION ON HYPERTENSION

(Created by Chapter 32 Resolves of 1949)

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INTRODUCTION

This is the third of three reference volumes to the available world s literature on blood pressure The volumes comprise the following

Volume One is an alphabetic listing by senior author of approximately seventeen thousand titles on the subject of blood pressure published between the years 1920 and 1950 These include articles in professional journals symposia reports textbooks monographs etc

Volume Two consists of two sections The first is an alphabetized index to the co authors whose con tributions appear in the first volume The second section is an index to the titles comprising Volume One The first two volumes are an integral unit but have been published under separate cover for con venience

Volume Three consists of approximately fifteen hundred abstracts of titles from Volume One A considerable portion of these are concerned with the incidence prevalence trend and distribution of hypertension according to age race sex occupa tion climate geography and those other factors customarily treated in conventional descriptive epi demiology

Abstracts of a sample of the literature pertinent to many other facets of essential hypertension—i e the roles of nutritional chemical and endocrine agents the renal system the cardiovascular system the nervous systems etc —in the etiology patho genesis and treatment of essential hypertension are also included in this volume

The contents of these volumes represent by products of various phases in a current investigation into the epidemiology* of essential hypertension The study is being conducted on a cooperative basis by the Division of Epidemiology of the School of Public Health and the Bureau of Applied Social Research—both units of Columbia University, and the Recess Commission on Hypertension of the Massachusetts State Legislature The sponsorship and financing of the project have been provided by the General Court of the Commonwealth of Massa chusetts (the State Legislature) through the Re cess Commission on Hypertension

The work at Columbia University represents one major aspect of the program of research which has been undertaken by the Recess Commission Other investigations conducted by the Commission in keeping with its stated purpose to foster studies in hypertension along the lines of its natural his tory its clinical investigation and treatment and its illumination by physio pathologic research in clude research on hypertension in children the role of the kidneys in hypertension the hereditary fac tors in hypertension and the effect of medical and surgical treatment for the alleviation of hyper tension

The investigations into the natural history of essential hypertension have been organized accord ing to an epidemiologic approach which may be characterized by the following distinctive features†

1 A compilation of existing data which define the nature extent and significance of a problem This includes attempts to describe incidence preva lence trends and distribution according to such characteristics as age sex race socio economic level occupation and the like This is descriptive epidemiology

2 A critical review and analysis of what is known about the natural history of the condition

* Epidemiology is defined as a science concerned with the study of factors that influence the occurrence and distribution of disease defect and disability in aggrega tions of individuals

† 1) An Epidemiologic Approach to the Study of High Blood Pressure Clark E Gurney and Morsell John A American Journal of Public Health 42 542 548 May 1952

2) *Epidemiology of Mental Disorder* Milbank Memo rial Fund New York 1950

under study The concept of natural history as employed here is not restricted to pathogenesis It may originate in the environment outside of man before he becomes implicated Thus natural history comprises the sum processes of interaction between host, agent and environmental factors which influence the origin, development and termination of a given disorder This phase of the epidemiologic approach is devoted to a critical appraisal of the methods and results of studies which purport to show the effect of these forces on the behavior of the disorder This is analytical epidemiology

3 On the basis of critical evaluation and review of the gaps in current substantive and methodological knowledge the development of hypotheses upon which further research may be based

4 The testing of hypotheses and theories by the use of controlled experimentation in the laboratory and clinic as well as in the field This would be followed by large scale epidemiologic investigation among scientifically sampled groups in given communities This is field epidemiology

The comprehensiveness of this approach requires for its successful outcome the cooperative research efforts of specialists drawn from the medical physical and social sciences In the investigation of essential hypertension this has necessitated the participation of a group composed of epidemiologists, industrial hygienists internists legislators pathologists physiologists psychiatrists public health officials sociologists, surgeons and teachers of preventive medicine

In order to attain the objectives of the first phase in our studies, i e a collection and compilation on the character, extent and significance of the problem a search was made for the available literature on blood pressure since 1920 This has resulted in a bibliography of approximately seventeen thousand contributions on blood pressure These titles were recorded on McBee Keysort Cards and were set up as a working file Each card was classified according to the content of title language of title, and the date of publication

A convenient classification system was established on the basis of the epidemiologic concept of the inter relation of agent human host and environment in disease causation Subclassification of these three major categories and multiple cross classifications enabled us to readily locate given titles on any aspect of blood pressure The file has proved to be most useful for our purposes Its value to other investigators soon became apparent and numerous recommendations prompted the Recess Commission to make the references more widely available by publication The duplication of the seventeen thousand card file for widespread use was found impractical The most desirable and feasible procedure has been the printing of the file in its present book form For a variety of reasons, including the avoidance of repeated duplication of titles, it has seemed preferable to provide an index to the titles themselves rather than to make use of the working classification adopted originally for the file Further explanation of the manner in which this has been done will be found in the Introduction to Volume Two

To complete the objectives of the first step in our approach to the problem, abstracts of the titles concerned with the occurrence and distribution of hypertension have been prepared In addition to these articles concerned with those factors usually treated by descriptive epidemiology and with many additional factors have also been abstracted

In order to meet the requirements of the second and third phases of this epidemiologic approach a review and appraisal of what is known about the natural history of essential hypertension and a reconsideration of data advanced to explain the natural history of essential hypertension and the existing shortcomings and inadequacies therein a symposium was convened by the Recess Commission in February 1951 at Boston, Massachusetts† At this time thirty six experienced investigators of the problems of blood pressure examined all aspects of the problem, defining existing areas of needed research and proposing concrete suggestions for the direction which future research should follow

Plans for completing the second phase of the investigation i e appraisal of methods and the third phase i e the development of hypotheses, are currently in preparation The use of controlled experimentation on the clinical, laboratory and field level is expected to follow The fourth phase would comprise a full scale epidemiologic field study embracing those areas which prior research has indicated require further investigation

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† *A Symposium on Essential Hypertension An Epidemiologic Approach to the Elucidation of Its Natural History in Man* Commonwealth of Massachusetts Recess Commission on Hypertension Wright & Potter Printing Company Boston Massachusetts 1951

ABSTRACTS

Volume III

The publication of the abstracts in this volume represents a by product of the work done in the first and second phases in the epidemiologic investigation of the phenomeñon of essential hypertension Those phases of the approach which are concerned with the analysis and critical evaluation of the factors known or purported to play a role in the natural history of this phenomenon have been dealt with in part at the Symposium meeting previously mentioned The presentation of reports and discussions at this meeting were based upon an outline classification along epidemiologic lines which took into account the multiple factors involved in the interaction within and between host agent and environment This outline classification has also been the basis for classifying the bibliographic file of the world literature on blood pressure Following is the outline classification which has been employed

I The Nature and Extent of the Problem of Hypertension

II Etiologic Agents (Agencies)—factors operating to raise or lower blood pressure This embraces the effects of different degrees of blood pressures the mechanism by which change in blood pressure occurs and the pathogenesis of hypertension

- a nutritional factors
- b chemical factors
- c endocrine and humoral factors
- d physical mechanical electrical agents
- e other disease conditions

III Habits and characteristics of man as they appear to be associated with variations in blood pressure

- a customs traditions patterns of living
- b heredity and constitution
- c psychologic characteristics
- d race sex age characteristics
- e response of human organism to hypertension (hypotension)
  - 1 renal aspects
  - 2 neurologic and ocular aspects
  - 3 heart and blood vessels
  - 4 clinical manifestations
  - 5 pathological and histological
  - 6 treatment—medical surgical etc

IV Environmental Factors

- a physical environment
- b social psychological aspects

V Other

- a experimental—animal
- b experimental—non animal
- c measurement of blood pressure
- d subject reviews books book reviews etc
- e miscellaneous and unclassifiable

It was originally conceived that the majority if not all of the literature could be classified under the above general categories and that it would be possible to abstract a major portion of the significant items represented in each This was to provide a series of critical evaluations and assessments of currently accepted theories and beliefs as expressed in the literature These reviews were expected to furnish material for discussion by the experts who participated in the Symposium and to give the epidemiologic team a comprehensive background on hypertension The difficulty of completing an undertaking of such magnitude prior to the Sym

posium was soon realized and a compromise was made It was decided that initially we would abstract that portion of the literature dealing with the nature, incidence prevalence trend and distribution of the phenomenon of essential hypertension according to such factors as age race sex geography weather and climate anthropometric data occupation heredity habits and customs and those factors usually treated in the conventional *descriptive* epidemiology Those data dealing with the problem of hypertension and its extent were analyzed and presented at the Symposium *

Upon the completion of the abstracting of the literature dealing with items classified under the category Nature and Extent of the Problem of Hypertension it was found possible to continue the process of abstracting materials on many additional aspects of hypertension One of the important gains derived from abstracting was to provide the necessary orientation to the members of the staff who were not trained in medicine or allied fields The result has been the coverage of each category of the outline classification

The major consideration in the selection of what areas of the literature should be abstracted was the covering of as much of each item represented in the classification outline as could be done with the available time and facilities Careful consideration showed the futility of applying various kinds of statistical techniques to produce a reliable sample of the literature In the same fashion it was soon evident that the application of qualitative criteria which might indicate the greater significance of one type of material over another, or the validity of one report as opposed to another was extremely limited

To a great extent then the selection of abstracts within a specific category was generally at random It should be noted that the oft recurring mention of certain kinds of experimental clinical laboratory and field procedures the frequency with which certain investigators appeared in the literature and in various bibliographic references, etc soon led to the selection of specific items within a given category rather than to a random selection of items *within the category With reasonable accuracy* it can be stated that there has been included in the present collection of abstracts a representation of the literature falling under each category of the outline classification

It has proven unfeasible to adhere to any given predetermined methods for the abstracting of the various kinds of items with which we have worked It has rather, been found practical to adapt the way in which an item in the literature has been abstracted to its own particular form and content In some cases it has been most convenient to set down results and conclusions of experiments etc in the words of the investigator himself In some instances the abstracts which have appeared as part of a report have been duplicated almost *in toto* It has been necessary in some cases to confine the abstract to an outline of material to be found in extended reports monographs textbooks etc In the majority of cases an attempt has been made to *paraphrase the salient features of a given item* noting for example the kind of a study which is reported, the nature of the sample, the tests and experiments utilized techniques and clinical observations and the reported findings and conclusions In general the abstracts contained in the present volume bear close resemblance to those found in the specialized medical literature

No attempt has been made in these abstracts to judge or to evaluate in any way the significance of a given item the validity of experimental evidence presented the conclusions and recommendations expressed or any other features of a given item Where any expression of evaluation may be found it has been completely unintentional

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John A Morsell The Problem of Hypertension—A Critical Review of the Literature Dealing with its Extent in *A Symposium on Essentials of Hypertension—an Epidemiologic Approach* (Boston Wright and Potter 1951) pp 6-49

A brief note may facilitate the use of this volume The abstracts which appear here represent those contributions in Volume One which are noted by asterisks appearing with the identification number If abstracts of the literature on a particular aspect of blood pressure or hypertension are desired reference must first be made to the index to titles which is found in Volume Two. This will cite the identification number for the appropriate items in Volume One. Examination of these items will readily enable the investigator to determine which of them have been abstracted and appear in this volume

E. K. [illegible] J. K.



ABD EL AZIZ ISMAIL Aetiology of hyperpiesis in Egyptians
Lancet 2 275 277 Aug 11 28
This paper is based on a study of over 3 000 cases many of which were traced for ten to fifteen years Chronic primary hyperpiesia in the absence of chronic inflammatory renal changes is quite common in Egypt and forms at least 10% of all cases in private clinics but is rare in hospital practice

ABESHOUSE B.S Hypertension and unilateral renal disease review of literature and report of 167 cases
Surgery 9 942 June 1941 10 147 July 1941
I Brief review of important clinical and experimental contributions to subject of hypertension of the non nephritic type Also a report of several cases of hypertension caused by unilateral renal disease which were cured or relieved by surgical treatment *Author breaks down information according to the following* outline
1 Classification
2 Incidence
3 Experimental hypertension
4 Diagnosis
5 Laboratory tests
II Review of 167 nephrectomies performed at Mount Sinai Hospital New York City 1930 31 to determine
1 Relative incidence of hypertension in advanced unilateral renal disease
2 Age and sex distribution
3 Immediate and late effect of nephrectomy on hypertension in these cases
4 Correlation of clinical findings and postoperative course of hypertension with renal parenchymal and vascular change
Tables and charts Extensive bibliography

ABRAMSON D.I Resting peripheral blood flow in hypertensive subjects
Proc.Soc.Exper.Biol & Med 45 127 129 Oct 1940
In the course of plethysmographic studies on the peripheral vascular responses of hypertensive patients, it was noted that in about 50% of the cases the resting blood flow in the forearm was much greater than that in subjects with normal blood pressure
The results obtained in a series of 28 hypertensive patients of various types were compared with those in a series of 38 normal subjects The average forearm blood flow in the latter was found to be 1 8 cc per min per 100 cc of limb volume while that for the hypertensive group was 3 1 cc In the case of 4 known hypertensive subjects in whom however normal blood pressure readings were obtained in the period in which the tests were performed the average forearm blood flow was 1 8 cc
The author concludes that in view of the disparity between our results and those reported by other investigators it becomes necessary to re examine their conclusions that an increased vascular tonus exists at the periphery in hypertension
Tables

ABREU B.E & WOODBURY R A Pressure and respiratory changes produced by strychnine convulsions
J Pharmacol & Exper Therap 78 321 330 Aug 1943
1 Convulsant doses of strychnine in the unanesthetized and narcotized dog and cat do not change the blood pressure until either the nervous or the skeletal muscular component of the convulsion is present
2 During strychnine convulsions there is an initial passive rise in arterial pressure which is primarily the result of an increase in the extra vascular pressures in the abdominal cavity and skeletal muscles This is accompanied by
a extensive activity of the sympathetic and parasympathetic nervous system tending to cause vasoconstrict on and cardiac slowing respectively
b vasodilation following the excessive skeletal muscular activity
3 *These effects may tend to counterbalance each other or may appear in sequence* and produce marked card ovascular changes and stresses
4 Asphyxia is the chief causative factor in respiratory depression resulting from strychnine convulsions
Charts

ABT A F & FEINGOLD B F *High blood pressure in normal infants* and children
Kinderaerztl Praxis 2 516 521 Nov 1931
It should be realized that high systolic pressures of 150 180 are often found in healthy children These pressures fall without influencing the future health The high blood pressure is probably caused by changes in the sex glands with the onset of puberty

ADAMS J.M Racial differences in blood pressures and morbidity in groups of white and colored workmen
Am.J M.Sc 184 342 350 Sept 1932
A study of 22 221 blood pressure readings covering about 14 000 individuals 8 000 of these were white 6 000 Negroes The author found the following
1 Blood pressures of Negroes are higher than those of whites
2 The pressures after 40 years of age advance more rap dly in Negroes
3 Damage in the aortic valve occurs earlier and more frequently in Negroes than in whites
Tables

ADAMS S F & BROWN G E   Treatment of essential hypertension
Ann Clin Med 5 1036-1045 May 1927

The treatment of approximately 200 patients with rest baths nitrites pheno barbital and typhoid vaccine is discussed Patients with the malignant form of essential hypertension do not as a group show nearly the same degree of favorable response as those with the benign type

The authors believe that hypertension demands primarily the treatment of the patient with the hyper tension rather than the treatment of hypertension itself They suggest that hypertension is commonly found in patients who have greatly increased their responsibilities

Charts Tables

ADDIS T & LEW W   Age and rate of venous enlargement under increased pressure
Proc Soc Exper Biol & Med 42 602 603 Nov 1939

A brief report of an experimental study on rats in which the author draws the following conclusions

1 After ligation of the vena cava above the entrance of the renal veins a plot of the logarithms of the percentage mortality or age seems to indicate that they are a linear function of the age at the time of operation

2 It is suggested that the above relation may be the result of a decrease in the rate of the venous enlargement under increased pressure as age advances

Tables

ADLER E L   Blood pressure in relation to physical exertion
M Press 205 181 183 Feb 26 1941

Changes in blood pressure have been the object of numerous investigations to obtain a measure of the functional capacity of the heart The author outlines a method for the determination of the relation between blood pressure and exertion which is suitable for use in general practice He summarizes the reaction of the systolic pressure to exertion by distinguishing three main groups

1 In normal individuals the pressure rises after exertion and returns to the base line after a short time

2 In slight degrees of insufficiency there is after the initial rise of the blood pressure a decline below the resting value and a gradual return to the original base line

3 In the advanced stage of failing heart no rise occurs the blood pressure falls below the initial value and slowly rises again

The author tested the method hedescribes on 500 persons 320 males and 180 females He reports that as far as age and accupation are concerned no typical differences in the reaction of the blood pressure can be recognized

Charts

ADLERSBERG D COLER H R & LAVAL J   Effect of weight reduction on course of arterial hypertension
J Mt Sinai Hosp 12 984 992 Jan Feb 1946

The result of weight reduction on the course of arterial hypertension was studied in a group of 54 pat ients in the years 1940 1941 The average course of treatment was 8 2 months the average loss of weight during this period was 23½ pounds The loss of weight was associated with a decreased blood pressure in 72% and with no change of blood pressure in 8% of the cases

15 patients of the original group were re examined in 1944 With due consideration of individual variations the course of arterial hypertension was more favorable in those who maintained their weights at reduced levels than in those who increased in weight during the 3 year interval

Tables

ADSON A W   Classification prognosis and management of hypertension
Mil Surgeon 84 537 555 June 1939

The underlying and primary abnormality demonstrated in cases of essential hypertension has been an excessive response of the blood pressure to various forms of stimulation This response is of the same order as that observed in non hypertensive persons but it is excessive The modern conception of essential hypertension according to the author is that the person inherits a hypertensive vasomotor mechanism as measured by the blood pressure

The treatment of hypertension is discussed in this paper with a special emphasis on sympathectomy

ADSON A W   Surgical treatment (splanchnic resection removal of lumbar ganglia and suprarenal resection) of essential hypertension
West J Surg 44:610 621 Nov 1936

Etiologically essential hypertension is probably due to a fault in the neurogenic endocrine vascular mechanism since no other apparent etiologic factor can be demonstrated Therefore investigators have attacked the problem of hypertension by operative procedures on the thor [illegible] and suprarenal glands and on the vas [illegible] from the sixth thoracic to the se [illegible]

[illegible] are described by the author selection of cases and surgical [illegible] Finally [illegible] clinical [illegible] are described [illegible] sudden fall of [illegible] and is maintained as long as the patient remains [illegible] pressures improvement in clinical [illegible] and brain if damage has not been too ex [illegible] creatinine and serum sulfates [illegible] hypertension

Charts

ADSON A W & ALLEN E V Essential hypertension selection of patients and results of surgical treatment (splanchnic and lumbar sympathectomy)

Proc Staff Meet Mayo Clin 12 75 78 Feb 3 1937

Presentation of abstracts of records of 3 cases in which splanchnic and lumbar sympathectomy was performed The patients were young and had progressive hypertension of an advanced degree when examined

The authors are of the opinion that extensive subdiaphragmatic sympathectomy has value in relieving patients of clinical symptoms and in permanently lowering blood pressures

It is also their opinion that the operative measures are most effective when employed in early stages of the disease when vasospastic phenomena are readily demonstrable and when damage has not been done to the cardiovascular renal system

Tables

ADSON A W & BROWN G E Malignant hypertension report of a case treated by bilateral section of anterior spinal nerve roots from sixth thoracic to second lumbar

J A M A 102 1115 1118 April 7 1934

Case of patient with severe progressive form of essential hypertension Length of life in such a case is usually less than three years There was a definite drop in blood pressure after section of the anterior spinal nerve roots

The favorable results of this operation in so severe a form of hypertension are encouraging for its further use for younger patients with severe progressive forms of essential hypertension

AIRD I Effect of sudden release of intestinal distention

Proc Soc Exper Biol & Med 32 1593 1595 June 1935

A study has been made of the effect of changes in intestinal distention upon the blood pressure whose vasosympathetic trunks are divided and common carotid arteries ligated on both sides whose splanchnic nerves are divided A pressor effect obtained in 5 dogs in which the small bowel ligated at both ends as a closed loop was distended with air In 5 dogs and 3 cats intestines under distention and became distinctly cyanosed at an air pressure of 60 90 mm mercury of these animals exhibited at once a sharp fall of from 20 90 mm mercury within half a minute this intestinal distention after a period of from 5 minutes to 7 hours was followed by a return the bowel to normal and by a rapid rise of blood pressure to its original level or beyond

In further series of 5 dogs prepared in the same way distention maintained from to hours of distention was again followed by return of bowel to normal color but in 3 animals instead pressure as occurred in previous series a sharp fall was observed

In 2 other animals distended for more than 18 hours and in one animal distended for only 12 hours bowel failed to resume its normal color after collapsing and remaining cyanosed No alterations in blood pressure

Results of an investigation into the depressor effect observed on relief of an intestinal distention of 6 to 18 hours duration are reported

ALAM M & SMIRK F H Unilateral loss of blood pressure raising *pulse accelerating* reflex from voluntary muscle due to lesion of spinal cord

Clin Sc 3 247 252 Aug 1938

Observations on a patient with complete loss of sensation in the right leg below *the knee* confirm the reflex origin of the increases in blood pressure and pulse rate which occur when the metabolites of exercise accumulate in the muscles of a normally innervated leg

The presence or absence of these reflexes affords an objective method of studying the *sensory disorders* of muscle

ALAM M & SMIRK F H Observations in man concerning effects of different types of sensory stimulation

Clin Sc 3 253 258 *Aug 1938*

The blood pressure raising effects of the application of cold to the skin and of exercise of an ischemic limb have been studied in healthy subjects and in patients with renal and essential hypertension

The effects on systolic blood pressure are greater in old than in young subjects *the effect* on diastolic pressure is about the same for young as for old subjects The effects on both systolic and diastolic pressure are less in patients with renal hypertension than in normal controls of the same age Large rises of blood pressure however may occur in normal subjects and small rises in patients with essential hypertension

A high degree of reactivity of the blood pressure does not by itself lead to an increase in the level of the blood pressure at rest The average blood pressure at rest is no greater in normal subjects with a high degree of reactivity than in normal subjects with a low degree of reactivity

In most cases of essential hypertension the natural relationship between pulse rate and blood pressure is reversed rise of blood pressure being accompanied by increased pulse rate

ALAM M & SMIRK F H Blood pressure raising reflexes in health essential hypertension and renal hypertension

Clin Sc 3 259 266 Aug 1938

Some sensory stimuli cause much pain but little rise of blood pressure others cause less pain but much greater increases of blood pressure

Reflex increase of the blood pressure may be set up by nerve impulses which arise from voluntary muscle but which do not cause pain or discomfort Either the blood pressure raising reflex from muscle is *carried by nerve fibres other than those which carry the sensation of pain or alternatively* pain fibres from muscle may be stimulated in such a way that they cause a reflex increase of blood pressure without causing pain or any other definite sensation

The reflex rise in the blood pressure which occurs when exercise metabolites accumulate in the voluntary muscles is not due mainly to the pain produced

Tables

ALAM M & SMIRK F.H Pressure raising reflex arising from voluntary muscles in man
J Physiol 89 372-383 June 3 1937

A blood pressure raising reflex arising from voluntary muscles may be demonstrated in normal human subjects by a simple clinical method The increases of systolic blood pressure which have been secured by this reflex range from 5 to 85 mm of mercury The increases of the diastolic pressure are usually less than those of the systolic pressure

The reflex is elicited when the substances liberated during muscle work are caused to accumulate in the working muscle either by arresting the circulation through the muscle during its work or by performing the work under natural conditions but at a rapid rate so that the flow of blood through the working muscle is insufficient to prevent accumulation of the metabolites

ALEXANDER F Psychoanalytic study of essential hypertension case
Psychosom Med 1 139 152 Jan 1939

The day to day blood pressure fluctuations of a 47 year old male suffering from a chronic depression chronic alcoholism and essential hypertension have been compared with the daily psychoanalytic material The patient s overt personality has been described and the underlying psychodynamic personality structure reconstructed and explained in thelight of the emotional development which led up to the adult personality

A definite correlation has been found between emotional tensions and fluctuations of the blood pressure

ALEXANDER F Emotional factors in essential hypertension presentation of tentative hypothesis
Psychosom.Med 1 173 179 Jan 1939

An attempt to integrate a number of diverse observations of clinical pathological physiological and psychological nature into a consistent etiological picture of essential hypertension

The author outlines briefly the following somatic aspects of essential hypertension clinical course pathological findings physiology He deals more extensively with the psychological and psychoanalytical observations In conclusion he writes

We come to the conclusion that the early fluctuating stage of essential hypertension is the manifestation of a psychoneurotic condition based on excessive and inhibited hostile impulses

What psychotherapy can hope for is a better emotional adjustment and as a result of this less daily fluctuation of the blood pressure that is to say less taxation of the cardiovascular system Thus psycho therapy may prevent the development of those secondary organic changes which are probably responsible for the malignant stabilized forms of essential hypertension

ALEXANDER R.S Effects of blood flow and anoxia on spinal cardiovascular centers
Am.J Physiol 143 698 708 May 1945

The author employed the activity in the inferior cardiac nerve of the cat as a direct index of the activity in the sympathetic outflow to the cardiovascular system and reached the following conclusions

1 After removal of all possible sources of reflex inhibition a rise in thoracic blood pressure produced by injections of adrenalin or pitressin or by sudden occlusion of the abdominal aorta still serves to inhibit the tonic activity in the thoracic sympathetic outflow to the cardiovascular system

2 The tonic activity arising within the spinal cardiovascular centers of de afferent spinal preparation is sensitive to changes in oxygen tension This activity is depressed by hyperventilation or ventilation with a mixture of 90% oxygen and 10% carbon dioxide and stimulated by asphyxiation or ventilation with pure nitrogen

3 In the de afferent spinal preparation a rise in blood pressure inhibits sympathetic activity by increasing the flow of blood to the spinal cord This increases the supply of oxygen to the spinal cardio vascular centers and thus depresses their activity

4 The author states that the oxygen tension in the spinal cord of the normal animal may contribute to the excitatory state of the spinal cardiovascular centers and thereby reinforce the buffer reflexes which are integrated at higher levels of the nervous system

Charts

ALLAN W Heredity of hypertension statistical study
Arch.Int.Med 52 954 958 Dec 1933

After a brief review of the relevant literature the author reports his findings in the case of 485 patients with hypertension of whom 480 gave direct parental history of hypertension apoplexy congestive heart failure or sudden death He concludes

The figures I have submitted suggest the possibility that hypertensive cardiovascular disease may prove to be a dominant unit trait but they are much too few to warrant any definite conclusions At the present time therefore the many statements in the literature that hypertension is either partly or wholly hereditary are without justification The question can be answered only after many more facts have been gathered and analyzed from a genetic standpoint

Table

ALLEGRETTI A.J Blood pressure as affected by altitude
M.Bull Vet.Admin 19 290 291 Jan 1943

The blood pressure of 206 subjects was taken at an altitude of 605 feet and showed average readings of 124 16 systolic and 80 52 diastolic pressure The 434 subjects examined at an altitude of 6 105 feet showed average pressures of 120 42 systolic and 76 51 diastolic

All subjects in the two groups consisted of first World War veterans with an average age of 46 and ranging from 40 to 56 years No subjects were included who were afflicted with functional or organic heart disease pulmonary disease thyroid disorder or nephritis and in no case was a subject chosen who was definitely ill from any ailment

ALLEN F V   Veins of suprarenal gland and their possible relation to hypertension
Proc.Staff.Meet.Mayo Clin 3 334 338 Nov 21 1928

Veins of the suprarenal gland with lumen areas on cross section from 19 9 to 30 sq mm inclusive show in cases of hypertension a ratio of muscle to lumen which is twice as great as in cases of normal blood pressure Theoretically this hypertrophy indicates

1 Increased secretion of epinephrine
2 Overactivity of the sympathetic nervous system
3 The result of heredity or unknown substances

These theories are briefly discussed

The total lumen area of all veins as defined in this paper is greater in cases of hypertension than in cases of normal blood pressure This shows in the former condition higher vascularization by veins which is not entirely due to the increased size of the gland

68 sections of suprarenal glands from 18 necropsies of patients with essential hypertension and 57 sections of suprarenal glands from 25 necropsies of patients with normal blood pressure serve as the basis of the study

ALLEN E V & ADSON A W   Medical versus surgical treatment of hypertension
Ann.Int.Med 14 288 307 Aug 1940

According to the authors the results of operation for essential hypertension can be predicted with reasonable certainty by observing the response of the blood pressure to rest and sleep to the ingestion of sodium amytal and to the intravenous injection of pentothal sodium When poor results of operation are predicted as a result of these tests the results are almost uniformly unfavorable When good results are predicted some patients do not receive as much benefit from operation as was anticipated

The authors justify continuance of the operation on the basis of their experiences The individuals who will receive the most benefit from surgical treatment are those who receive treatment early in the course of their progressive disease before irreparable damage has resulted to the cardiorenal vascular tissues

ALLEN E V & ADSON A W   Physiologic effects of extensive sympathectomy for essential hypertension
Am.Heart J 14 415 427 Oct 1937

The results of operation for essential hypertension can be predicted with reasonable certainty by observing the response of the blood pressure to rest and sleep to ingestion of sodium amytal and sodium nitrate and to intravenous injection of pentothal sodium

The authors claim the following results

1 Anhidrosis of the lower extremities and loss of ejaculation and probably of fertility of the male
2 Following operation orthostatic hypertension and tachycardia occur but disappear as time passes
3 The heart may decrease in size inverted T-waves in the electrocardiogram may become upright retinitis and spasm of the retinal arteries may diminish or disappear albuminuria may decrease renal function may be improved The basal metabolism may be decreased

ALLEN E V BOWING H.H & ROWNTREE L G   Use of radium in internal medicine further experiences
J A.M.A 88 164 168 Jan 15 1927

Radium chloride sometimes lowers blood pressure occasionally quite markedly but the same results can easily be obtained by other and simpler methods Radium chloride relieves pain and the relief is occasionally marked but the same results can usually be obtained by other and less expensive measures While qualitatively radium may relieve pain and reduce blood pressure the results quantitatively usually fall far short of success

Tables

ALLEN E V & MacLEAN A.R   Relief of hypertension headache with head up bed case
Proc Staff.Meet Mayo Clin 15 523 525 Aug 14 1940

Case report of woman 46 years admitted to the Mayo Clinic with diagnosis of both migraine and hypertensive headache At the time of admission of patient to the hospital headache occurred every morning and lasted 6 to 10 hours Physical examination was essentially negative except for rather mild hypertension and minimal vascular changes in the retinas

The results of sleeping on a bed in which the head is elevated were so strikingly successful and the effects of the position of the bed so consistent that the authors feel no doubt that there is a cause and effect relationship between the posture which the patient assumed during sleep and the occurrence or absence of headache The migraine as well as the hypertension headache did not occur when the head of the bed was elevated

ALLEN F M   Production of various renal vascular disorders
J Urol 49 512 523 April 1943

Intermittent clamping or ligation of the renal vessels in imitation of arterial spasms produces in dogs

a Uremia with an apparent functional element
b Acute and chronic hypertension
c Possibly susceptibility to attacks resembling epilepsy

A similar procedure with the pancreas will produce

d diabetes

A theoretical discussion in connection with these individual disorders is given

The production of uremia hypertension epileptiform state and diabetes suggests applicability to an even wider range of disease conditions

Plates

ALLEN F.M *Arterial hypertension*
J Am M Ass Chicago lxxiv 652 655 1920
The author describes briefly some of the causes of hypertension with an emphasis on salt and fluid restriction *Hypertension* with kidney impairment with diabetes or severe nephritis are also discussed briefly
Tables

ALLEN F.M & COPE O.M Influence of diet on blood pressure and kidney size of dog
J Urol 47 751 768 June 1942
The chronic and acute increases of blood pressure of 1? dogs are *demonstrated within the limits of error of* the auscultatory method These observations demonstrate the diurnal curve of blood pressure in all dogs normal and hypertensive *due to sodium* chloride In explanted kidneys there is a sharp distinction between a protein attack and water salt effect
The diuretic labor resulting from salt or water is accompanied by a transitory kidney *swelling due to* hyperemia This labor *however fails* to give rise to prove renal hypertrophy and the salt and water over load is long continued The diuretic labor *from protein seems to be different* since it is accompanied by a much lesser degree of a temporary swelling attributed to hyperemia On the *other hand a long continued* protein *overload gives rise* to a gradual and longer lasting enlargement which must be interpreted as true hypertrophy according to the observations *of Addis* Protein meals did not elevate blood pressure but tended rather to reduce it
Tables

ALLEN F M & SHERRILL J L The treatment of arterial *hypertension*
J.Metabol.Research Morristown N.J 11 429 545 10 cht 1922
This paper describes 180 cases *of hypertension* treated by close constriction of sodium chloride intake for periods of one month to three years
Fully normal blood pressure was restored in only 34 cases (18 9%) In 75 cases *(41 97) relief of* hypertension and *other symptoms were* sufficient to be regarded as a distinct therapeutic success Transitory benefit followed by depth or relapse after *several months* was obtained in 16 cases (8 9%) Complete failure reported in 55 cases (30 57) Total mortality for 4 year period was 25 (13 87)
General *statistics include* the *following* points Break downs by sex treatment before admission and judgement of methods duration of cases body *weight plasma chlorides* blood urea plasma sugar blood pressure length of treatment final chloride ratio
Individual *feattures of the* treatment and illustrated cases are discussed
Tables and Bibliography

ALLEN P L *Chromaffin cell tumor* (of adrenal medulla) associated with paroxysmal hypertension case
Texas State J Med 36 540 542 Dec 1940
A new case of chromaffin cell tumor of the adrenal medulla is reported These tumors *are derived* from and *related to the sympathetic* system Excessive secretion and outpouring of adrenalin into the blood stream explains the paroxysmal hypertension and clinical *syndrome According* to the author surgical removal is the only treatment

ALLEN W F Effect on respiration blood *pressure and carotid pulse* of various inhaled and insufflated vapors when stimulating one cranial nerve and various combinations of cranial *nerves* vagus and vagotomy experiments
Am.J Physiol 87 558 565 Jan 29
Purpose of the investigation
1 To determine the effect of inhaling strong and weak irritating vapors on respiration and circulation in vagal animal i e one *deprived of all effective* sensory nerves supplying its respiratory passages
2 To ascertain if there is any alteration of respiration and circulation *during the inhalation of* irritants in vagal rabbit after double vagotomy
3 To *repeat the experiments of several* previous investigators on insufflation of irritating vapors into the trachea of vagotomized animals in which both positive *and negative results have been obtained*
Observations are made with regard to
(1) *Effect of various* inhalants on respiration blood pressure and carotid pulse in vagal rabbits
(2) Effect from inhalation of weak and *very weak irritants* in *vagal animals*
(3) Effect of insufflation of ammonia and other vapors into the trachea of vagotomized rabbits
Charts

ALLEN W F Effect on respiration blood pressure and carotid pulse of various inhaled and insufflated vapors when stimulating one cranial nerve and various combinations of cranial nerves branches of *trigeminus affected by these stimulants*
Am.J Physiol 87 319 325 Dec 1928
As precursor to more extensive experiments the author was concerned w h the necessity and simplest manner *of producing an animal in which* the trigeminal nerves to the nasal region have been cut and the vagus and other nerves supplying the lower respiratory areas *are not functioning*
Experiments were performed on rabbits to investigate
1 *direct effect of insufflation* of xylol and ammonia vapors on
a the naso ciliary nerve endings
b the maxillary nerve endings

2 Direct effect of inhalation of xylol and weak ammonia vapor on

a the nerve endings of one *maxillary nerve*

b the nerve endings of one naso ciliary nerve

The method employed and the results obtained in each of the above experiments are reported

ALLEN WILLIAMS G.M Pulse rate and blood pressure in infancy and early childhood
Arch.Dis Childhood 20 125 128 Sept 1945

Study of resting pulse rate and the ranges of blood pressure in healthy children at ages 6 months to 5 years under standard conditions

Conclusions

1 Pulse rates in infancy and childhood decrease with age in both sexes

2 Great variation is found between the sleeping pulse rates of children in the same age group This is greater than the variation of sleeping pulse rates of individual child

3 Systolic blood pressure in children of both sexes with one exception among the females increases with age up to 4 years old

4 At 2 to 3 years the systolic pressures in females the diastolic in both sexes decrease

5 There is a high correlation between systolic and diastolic pressure No significant correlation was found between blood pressure and body weight in childhood

6 Evidence suggests that there may be a physiological change in the circulatory system of both sexes at 2 to 3 years

Tables

ALPERT L K & LILIENTHAL J L JR Effect of dietary protein on clearances of diodrast (iodine pre paration) and inulin by kidney in chronic hypertension
Bull.Johns Hopkins Hosp 72 286 298 May 1943

Simultaneous determination of the renal clearances of diodrast inulin and urea were made in six dogs during periods of low and high protein intake Two of the dogs had chronic hypertension of renal origin two had chronic neurogenic hypertension and two had normal blood pressures The clearance values of all the substances under consideration were much greater during the period of high protein intake than during the low ones The inulin and urea clearances were increased to a relatively greater degree than with the diodrast clearances No qualitative differences were noted in the response of the normal renal hypertensive and neurogenic hypertensive dogs with changes in diet No significant anatomical abnormalities were found in the blood vessels kidneys or other organs of the dogs at post mortem examination It is concluded that the blood flow and functional activities of the kidneys of the dogs with chronic experimental hypertension may be unimpaired and may react to the stimulus of increased dietary protein in a manner which is indistinguish able from the normal

ALPERT L K & THOMAS C B Effect of dietary protein on urea clearance and arterial blood pressure in chronic hypertension
Bull.Johns Hopkins Hosp 72 274 285 May 1943

Clearance of urea during periods of varying protein intake were made in 5 dogs Two of the dogs had chronic experimental hypertension of renal origin two had chronic neurogenic hypertension and one had a normal blood pressure The urea clearance values were normal in all of the animals during periods of low protein intake and showed pronounced elevation whenthe dogs were fed diets high in protein Since variations in urea clearance are associated with parallel changes in renal blood flow these results suggest that there may be no impairment of renal blood flow in dogs with chronic experimental hypertension The variation in arterial pressure during the experimental diets were not great and should not be correlated with the changes in protein intake or urea clearance

ALTHAUSEN T.L & KERR W.J Watermelon seed extract in treatment of hypertension
Am.J.M.Sc 178 470 489 Oct 1929

The authors found that cucurbocitrin therapy in hypertension causes considerable lowering of the blood pressure and gives complete or marked relief of symptoms in a majority of cases Patients under the age of 50 years with known duration of hypertension of less than 3 years and having little cardiovascular damage are most likely to respond favorably to cucurbocitrin

The effects of cucurbocitrin and liver extract in hypertension are essentially alike in kind as well as degree and apparently both are based on sustained peripheral vasodilatation

Tables

ALTNOW H O Changes in eyeground in vascular diseases and in related conditions 187 hyperthyroid diabetic nephritic hypertens ve and cardiac cases with special reference to retinal arteriosclerosis
Arch.Int.Med 40 757 785 Dec 1927

A study of 20 cases of thyroid disease with increased basal metabolism shows a rather striking absence of retinal arteriosclerosis wl en pat ents in the sixth decade are eliminated

In 47 diabetic patients of all ages with and without hypertension the incidence of definite retinal arterio sclerosis was 36 1% in the latter and 81 8% in the former

According to the author retinitis occurs with greater frequency in chronic nephritis than in vascular hypertension

A study of the changes in the eyegrounds in 56 patients with and without hypertension in which chronic myocarditis was either the primary or the important secondary diagnosis revealed the presence of definite *retinal arteriosclerosis in 91 2% of the former and in 68 2% of the latter*

In chronic valvular diseases that had developed on a rheumatic basis retinal arteriosclerosis was absent in 2/3 of the cases and when definite retinal arteriosclerosis was present it occurred in association with elevation of the blood pressure and in patients who had reached an age when degenerative changes in the vascular system might become manifest
Tables

ALTSCHULE M.D SULZBACH W.M & TILLOTSON K.J Effect of electrically induced convulsions on peripheral pressure in man
Arch.Neurol & Psychiat 58 193 199 Aug 1947
Electrically induced convulsions cause marked transitory elevation in venous pressure consequent to muscular straining the Valsalva phenomenon increased carbon dioxide tension of the blood and possibly also increased circulating epinephrine After termination of the seizure the venous pressure remains slightly elevated It is concluded that the pronounced increases in venous pressure are of such short duration as to create little hazard of reducing intracerebral capillary hemorrhages That other hazards exists is however recognized It is concluded that the marked rise in venous pressure and the circulatory dangers associated with it are not essential to obtaining clinical improvement

ALTSCHULE M.D & TILLOTSON K.J Modification by curare of circulatory changes during electrically induced convulsions in man note on d tubocurarine
Arch.Neurol & Psychiat 59 469 475 April 1948
The administration of curare before induction of convulsive seizures reduces the degree of rise in venous pressure caused by convulsions Changes in the electrocardiograms of curarized patients given electroshock therapy are similar to but generally less prominent than those of uncurarized patients An apparent exception is the frequent occurrence of ventricular premature beats after seizures in curarized patients This finding is difficult to evaluate since the patients of this study were for the most part well advanced in years It is concluded also that d tubocurarine has all the effectiveness of nitrocostrin and lacks some of its drawbacks
Tables

ALVAREZ W C Blood pressure in 6 225 prisoners and 422 guards
Proc.Staff Meet Mayo Clin 4 321 323 Nov 6 1929
Some racial differences were observed The blood pressure of Negroes appears to rise faster with age than does that of white people The blood pressure of Mexicans showed almost no tendency to rise with age The blood pressure of 40 Chinese was about the same as that of Americans
It appears that the level of blood pressure is little affected by such factors as dissipation the use of alcohol and drugs or even syphilis It appears to be affected largely by heredity and it certainly is affected by excitement nervousness the strain of the day s work the amount of fat in the body and the temperature of the air

ALVAREZ W C Blood pressure in university freshmen and office patients
Arch.Int.Med Chicago xxvi 381 404 1920
A statistical analysis of the blood pressure in 8 737 University of California freshmen and 1 000 office patients Results
1 The mathematical treatment of these data suggests that the pressures over 130 millimeters for the women and over 140 millimeters for the men are abnormal
2 The blood pressure in young women is much more uniform than in men
3 High blood pressure appears earlier and to a greater degree in young men than in young women
4 The average blood pressure in the women rose between the ages of 16 and 17 then dropped to 25 years and thereafter rose rapidly Little can be said about the men s yearly averages on account of the disturbances in sampling brought about by the First World War
5 It is suggested that hypertension is based on an hereditary peculiarity
6 Clinical experience suggests that pressures over 127 millimeters in women and over 130 millimeters in young men are indicative of a hypertensive diathesis associated with many typical symptoms and findings
7 Fifty out of one hundred men will die of cardiovascular disease
The author believes that a hereditary predisposition is the most important etiologic factor
Tables and charts

ALVAREZ W C McCALLA R L & ZIMMERMANN A Hypertension and constipation a statistical study
Arch.Int.Med Chicago xxxviii 158 166 1926
An analysis of the records of 410 men and 585 women office patients of Alvarez 436 classed normal 414 habitually constipated 110 as having occasional or recent constipation 35 with diarrhea
Statistical analysis shows that in men constipation has absolutely no effect on the blood pressure In women there is a pretty definite connection between constipation and a slightly lowered mean blood pressure Three possible interpretations of the data are given
1 The constipation may lower the pressure
2 Lower pressure may cause the constipation
3 Higher pressure may be slightly laxative
Standards are given for correction of averages according to differences in age and weight distribution It is seen that in men the blood pressure does not rise appreciably until after the age of 50 Blood pressure in women behaves differently
Men with normal weight average 10 mm higher than do the lean and the stout average 13 mm higher than the normal
Tables

ALVAREZ W C & STANLEY L L   Blood pressure in 6 000 prisoners and 400 prison guards statistical analysis

Arch Int Med 46 17 39 July 30

1 In the prisoners studied modal blood pressure varies but little from youth to old age Mean pressure does not increase until after the age of 40 years

2 The modal or most typical pressure is the one which should be studied when the normal blood pressure is sought The blood pressure of prisoners was lower than the figure usually quoted for men in the outside world

3 Observations are made with regard to such factors as age body build nationality race weather effect of alcohol drugs and tobacco and type of conviction

4 The prison guards have pressures considerably higher than those of the prisoners

Tables and charts

ALVAREZ W C WULZEN ROSALIND & MAHONEY LUCILLE J   Blood pressures in 15 000 university freshmen

Arch.Int.Med Chicago xxxii 17 30 1923

Analysis of the systolic blood pressure of 6 000 men and 8 934 women entering the University of California

Findings

The pressures of the women are more uniform than those of the men and they average 11 mm lower

Hypertension is very common among the younger men about 45% having pressures exceeding 130 and 22% having pressures exceeding 140 mm

Among the women about 12% had pressures exceeding 130 mm and about 2% exceeding 140 mm

The average pressure for both men and women drops gradually during the first years of adult life The pressures of the women are grouped about 118 mm at the age of 16 about 111 at 24 and about 117 at the age of 40

Hypertension cannot be ascribed regularly to infection or to the strenuous life It seems to be inherited and the appearance can be supressed in women so long as the ovaries function well

ANDERSON E PAGE E W & LI C.H   Development of refractory state to adrenocorticotropic hormone

Endocrinology 41 105 107 July 1947

Hypertension was established in 7 adult rats by partial occlusion of the left renal artery Hypophysectomy caused a fall in blood pressure from average of 160 mm of mercury to 123 mm of mercury

The administration of a purified preparation of adrenal corticotropic hormone restored the blood pressure to the pre hypophysectomy level However despite the continued injections of the hormone over a period of 23 days the blood pressure gradually fell to the pre injection level A second course of injections had practically no affect on the blood pressure

ANDERSON E PAGE W.E LI C.H & OGDEN E   Restoration of renal hypertension by administration of adrenocorticotropic hormone

Am.J Physiol 141 393 396 May 1944

The adrenal cortex is a necessary part of the mechanism by which renal hypertension is produced and sustained Since the adrenal cortex is influenced by the anterior hypophysis it is to be expected the hypophysectomy which is always followed by decrease in function of adrenal cortex would lower blood pressure of renal hypertension

The experimental procedure followed by the authors is outlined and the results presented in tabular forms are commented upon

Hypophysectomy causes a fall of the blood pressure of rats with renal hypertension The blood pressure does not fall to normal level except in those animals in which the hypertension has been present less than one month A purified adrenocorticotropic hormone will restore the renal hypertension to the pre hypophysectomy level Lactogenic hormone in pure form does not show this effect

ANDERSON K W   Blood pressure as factor in mortality

Journal Lancet 62 341 345 Sept 1942

The author reviews insurance studies and clinical studies The following are among his conclusions

1 The old adage of 100 plus the age as a correct interpretation of what should constitute normal blood pressure has definitely been proven false

2 Blood pressure does not increase very appreciably with age The author comments further on the age factor in high blood pressure

3 Average blood pressure is not the same as normal blood pressure

4 Most favorable mortality is found where systolic blood pressure is below the average

5 Build in itself has only a minor effect on blood pressure

6 Relative decrease in mortality in people 50 years and over who have moderate hypertension

7 The higher the diastolic pressure the more increased the mortality given the same systolic pressure

Tables

ANDREWS V L   Pathology of arterial hypertension

M.J & Rec 131 207 208 Feb.19 1930

A short review article dealing with the following aspects of the pathology of arterial hypertension

1 Physical causes   2 Mental Causes   3 Endocrine causes

4 Idiopathic hypertension   5 Metabolism

ANDRUS F C Relation of age and hypertension to structure of small arteries and arterioles in skeletal muscle
Am J Path 12 635 652 Sept 1936
The study was made to determine whether or not age or chronic hypertension produce any characteristic changes in the structure of the small arteries and arterioles in skeletal muscle
137 specimens of pectoral muscle taken from routine autopsy material were examined Arteries having an outside diameter of 15 to 150 microns were studied A marked variation in degree of fibrosis of the media was observed Degree of fibrosis was most marked in cases of severe hypertension Greater average amount of fibrous tissue in arteriole walls of hypertensives was found that in non hypertensives of the same age group All cases of hypertension did not show marked fibrosis No cases of marked fibrosis were seen before the 29th year after that year increasing frequency Yet many persons of advanced age show only minimal degrees of fibrosis No intimal disease was found in the small arteries or arterioles of pectoral muscle at any age It was not seen in any case of hypertension
It was not possible to distinguish between hypertensive and control patients by examination of the small arteries and arterioles of pectoral muscle

ANON Heredity in hypertension
Med J Australia 2 325 1934
This paper is merely a short review of a study conducted by P Ayman (Arch of Int Med May 1934) in which 1 524 persons were examined representing 277 families Ayman in his study found a correlation between the tendency to hypertension and heredity

ANREP G V & EVANS C L The mode of action of vaso dilator nerves
Proc Physiol Soc Lond liv p x 1920 1921
Experiments were made on the tongue of the dog in which vaso dilatation was produced by stimulation of the lingual nerve Urethane and hirudin were administered usually one or both hypoglossal nerves were cut and cannulae were placed in the carotid artery and lingual vein for the collection of blood samples which were thenanalyzed by Barcroft s method
Although metabolites no doubt play an important part in causing the vaso dilations associated with functional activity these experiments indicate that there is a likelihood that vaso dilator nerve fibres actually exist These could possibly be thrown into action reflexly as in vaso dilator reflexes
Tables

ANSELMINO K J & HOFFMANN F Presence of substance which increases blood pressure in blood during renal diseases and eclampsia of pregnancy
Klin Wchnschr 10 1438 1441 Aug 1 1931
A discussion of a method to detect pituitary hormone of the posterior lobe in the blood of patients with nephrosis and eclampsia It is possible to find in the blood of these patients a substance which has an anti diuretic effect This substance is the same as the pituitary hormone of the posterior lobe
Charts

APEL M Effect of short wave therapy on blood pressure
M Rec 144 229 230 Sept 2 1936
The author has followed in detail before during and after treatment the effects of treatment with short waves upon the circulatory system in a large number of cases Only those cases were included in which a careful examination showed no circulatory abnormalities Pulse and blood pressure were taken before and directly after treatment and again after a period of rest
Series of control experiments were carried out on healthy subjects pressure recorded before rest and after 10 and 20 minutes rest respectively The resulting reduction in blood pressure was much more marked when the short wave current was applied at the same time intervals as those indicated above The foregoing technique was applied in similar manner to large numbers of patients of types of condition mentioned above In conclusion the author states
First then we can state the observed fact that short waves have the effect of reducing blood pressure in the healthy subject and apparently an even more marked effect in reducing blood pressure which is pathologically high It is pointed out that this therapeutic method achieves a reduction in blood pressure not only during and after treatment but also for a longer period of time

APPELROT S Hypervitaminosis D and blood pressure in dogs
Am J Physiol 105 294 299 Aug 1933
Investigation to find out whether arteriosclerotic changes produced in dogs by feeding them for long period with high dosage of Vitamin D were accompanied by variations in blood pressure
Data obtained from 20 dogs of which 13 were fed moderately high doses of Vitamin D and 7 acted as control Feeding period lasted for 15 and 25 days At the conclusion of these observations the dogs were killed by hemorrhage and postmortem examinations made
Results Vitamin D in the form of vigantol fed to dogs in moderate doses for periods of 15 and 25 days produced a marked rise in blood pressure along with a modified response of blood pressure to adrenalin
The underlying cause of the rise in blood pressure is referred to the hypertrophy of the media of the arterioles which was found in the vitamin fed animals Vitamin D has probably some influence on the maintenance of normal blood pressure its action when given in slight excess being adrenalin like in nature
Tables photographic illustrations

APPERLY F.L & CARY M K Relation of arterial pulse pressure to arteriovenous oxygen difference especially in arterial hypertension
Proc.Soc.Exper.Biol & Med 48 492 495 Nov 1941
As a result of a study of 47 patients suffering from a variety of diseases the authors reach the following conclusions
1 Since pulse pressure (PP) x pulse rate (PR) x arterio venous oxygen (A V O_2) difference in the arms of different subjects roughly equals a constant PP x PR is regarded as a fair index of blood flow entering the arm
2 Since PP x PR is increased and A VO_2 difference is diminished in arterial hypertension and in certain anemias (in both of which total cardiac output is not increased) it follows that a larger proportion than normal of total blood flows through the arms (and possibly all limbs) i e in these two conditions peripheral vasocon striction is less marked in the arms than in the splanchnic area
3 In hyperthyroidism the points on the graph are moved to the right of the normal curve indicating an increased oxygen use in the arm The fact that many cases involving increased cardiac work also move to the right shows that the increased metabolism in these cases is not due to increased cardiac work alone but takes place in the arms also and is possibly a general condition
4 It is suggested that the pulse pressure serves as a rough but valuable indication of the reciprocally varying needs and blood supply of the viscera and muscular masses of the body

ARMITAGE E M DOWALL R.J.S & MATHUR S.N Seasonal variations of blood pressure in cats
Quart.J.Exper Physiol 21 365 369 March 1932
It is shown that the blood pressure in cats is higher in the spring than in the winter to an extent that is mathematically significant Evidence is given which suggests that this increased pressure is due to an increased activity of the sympathetic part of the autonomic nervous system

ARMSTRONG H G Pressure and pulse rate as index of emotional stability
Am.J.M.Sc 195 211 220 Feb 1938
A review of 700 examinations of candidates for flying training for the air coprs shows that there is a cor relation of 98 for the stable group and 88 for the unstable group and a general correlation of 92 between the relative emotional stability of the individuals and their cardio vascular findings

ARNOTT W M & KELLAR R.J Effect of renal denervation on pressure in experimental renal hypertension
J Path & Bact 42 141 154 Jan 1936
An investigation to establish the part played by the autonomic nervous system in the mechanism of renal hypertension Experiments were performed with the statement of Hadfield and Garrod (1934) in mind
If it could be shown that no rise in blood pressure follows nephritis in a denervated kidney (the path of a supposed reflex arc to the vasomotor center or elsewhere being thus interrupted) this explanation would be acceptable Chinchilla rabbits were used and the following groups of experiments carried out
1 Effect on the blood pressure of bilateral nephrectomy
2 Effect on the blood pressure of oxalate administered in bilaterally nephrectomized rabbits
3 Effect of oxalate on unilaterally nephrectomized rabbit
4 Effect of oxalate on animals in whom one kidney had been removed and the other denervated
Conclusion
(1) A progressive fall in blood pressure has been found to follow bilateral nephrectomy in the rabbit
(2) The hypertension in oxalate nephritis would appear to be due to renal damage
(3) Denervation of the kidney abolishes the hypertension of oxalate nephriti in unilaterally nephrectom ized rabbits
Charts

ASCANIO J.B.R Statistical findings regarding blood pressure in Venezuela
Proc Am.Scient Cong (1940) 6 173 1942
In a period covering several years an extensive study of blood pressure was made among the natives in and around Venezuela It was found that there was considerable variation in the blood pressure of individuals in Venezuela It ranged from 120 mm to 150 mm systolic and from 60 to 75 mm diastolic The average was 130/65 mm

ASCHNER B Blood pressure in relation to obesity
Ztschr f klin.Med 116 669 679 1931
A statistical study of 307 cases of adipositas and 500 control cases of normal individuals shows that after the 30th year the blood pressure is higher in obese people than in the control cases The blood pressure could usually be reduced with a reduction in weight
Tables

ASCHNER P W EPSTEIN B.S & MANDELBAUM H Incidence of gross renal lesions in ca es of hyper tension
New York State J Med 43 1970 1979 Oct 15 1943
The d scussion is divided into the following sections
1 Cases of hypertension associated with unilateral lesion of main renal artery
2 Cases of renal infarction
3 Hypertension caused by renal compression
4 Orthostatic hypertension
5 Pyelonephritis (atrophic unilateral) and congenital hypoplas a (unilateral)

AYMAN D Bismuth subnitrite in treatment of arteriolar (essential) hypertension
J A M A 98 545 546 Feb 13 1932

A survey was made of information obtained concerning 67 patients who were given a diagnosis of narcolepsy and who had not been treated with ephedrine No patient had recovered completely 30 had improved in 14 instances however the improvement was very slight 25 patients were the same 8 were worse and 7 patients died

50 patients have been treated with ephedrine To the best of the author s knowledge the treatment was a total failure in 2 instances 8 patients have been moderately improved symptomatically 17 patients have made marked symptomatic improvement and 20 have been completely relieved symptomatically
Tables

AYMAN D Essential hypertension diastolic blood pressure its variability
Arch Int Med 48 89 97 July 1931

The author reports a study of 76 patients who attended the clinic regularly Each patient had a diagnosis of essential hypertension For analytical purposes 76 patients were divided into 3 groups on the basis of the general height of their systolic pressure The following are the author s conclusions

The diastolic blood pressure in essential hypertension when observed frequently and over a sufficiently long period fluctuates over a wide range The percentage of fluctuation of the diastolic is as great as that of the systolic blood pressure
Tables and charts

AYMAN D Evaluation of therapeutic results in es ential hypertension interpretation of sympmtomatic relief
J A M A 95 246 249 July 26 1930

In a series of 48 unselected hypertensive patients treated by the daily administration of a few drops of dilute hydrochloric acid an improvement of the symptoms was noticeable in 33 (82%)

The symptoms associated with uncomplicated essential hypertension may frequently be relieved by the suggestion inherent in any seriously and enthusiastically prescribed drug or method This is the explanation of many successes of treatments in the past

AYMAN D & GOLDSHINE A D Pressure determinations by patients with essential hypertension difference between clinic and home readings before treatment
Am J M Sc 200 465 474 Oct 1940

34 patients 10 males and 24 females aged 32 to 67 (average 43 years) with variou degrees of essential hypertension had their blood pressure studied for an average period of 22 months in clinic and at home Study shows home systolic and diastolic readings lower than clinic readings in all cases of essential hypertension Home blood pressure method should be of value

1 To teach patient nature of his disease
2 To assist physician in observation of natural course of disease
3 To aid prognosis
4 To permit clear cut evaluation of therapy

Tables and charts

AYMAN D & GOLDSHINE A D Breath holding test simple standard stimulus of pressure
Arch Int Med 63 899 906 May 1939

Holding the breath in quiet expiration with the nose and mouth closed for 20 seconds is a simple standard stimulus of blood pressure Hyperreactors and hyporeactors can be determined by this method The test according to the authors is simpler and furnishes a somewhat greater stimulus than the cold pressor test
Charts

AYMAN D & GOLDSHINE A D Cold as standard stimulus of blood pressure study of normal and hypertensive subjects
New England Med J 219 650 655 Oct 27 1938

The authors review the literature on the cold pressor test and discuss their own study in which they used the same technique as Hines and Brown on 48 subjects with normal blood pressure and 88 subjects with essential hypertension

AYMAN D & KRAKOWER A Influence of sclerotic arterial wall on blood pressure measurements case with calcification of one radial artery
Arch Int Med 52 33 43 July 1933

Simultaneous bilateral readings of the blood pressure in the radial arteries were made in a patient who both clinically and radiographically had a soft radial vessel on one side and a sclerotic radial vessel on the other side The results in this case are in accord with evidence obtained previously in studies with excised vessels and the observations indicate that the sclerotic arterial wall has no significant effect on the determination of blood pressure It was also found that in this patient as well as in three other patients with marked radial sclerosis the radial blood pressure reading was higher than the brachial blood pressure reading
Tables

AYMAN D & PRATT J.H Nature of symptoms associated ...
Arch.Int.Med 47 675 687 May 1931
Character and etiology of early symptoms associated w ...
Data obtained through
1 Analysis of 100 unselected outpatient records (clinical ...
of hypertensive cases and personal examination of 53 of the pa...
average age 52
2 Study of 50 psychoneurotic patients observed personal...
pressure normal Average age 48
The authors feel that clinical observations presented supp...
essential hypertension are of psychic origin
Tables and charts

BACKER M Essential hypertension constitutional conside...
Am.J.M Sc 192 395 404 Sept 1936
The author proposes an investigation of the possible exis...
and its relation to arterial tension in particular Assuming t...
clinical manifestations of a hypertonic type of constitution th...
hypotonic persons i e in those with a diminished neurovasc...
order to ascertain this the blood pressure has been studied ...
hernia acquired some time in life without injury to the site ...

BAGGENSTOSS A.H & BARKER N W Hypertension asso...
Arch Path 32 966 982 Dec 1941
Study of the incidence of hypertension in 84 cases of unil...
hypoplasia in which a necropsy was performed Control gro...
at random with exception of matching on age factor Incide...
criteria for both experimental and control groups
The authors realize that the results are of questionable ...
cases but suggest the following conclusions
1 Unilateral pyelonephritic atrophy is more often asso...
2 Hypertension is more likely to be present if atrophy ...
3 In many cases in which hypertension is in an early s...
sclerosis
Tables and illustrations

BAILEY P & SWEET W.H Effects on respiration bloo... orbital surface of frontal lo...
J.Neurophysiol 3 276 281 May 1940
Fromthe orbital surface of the frontal lobe in both cats ...
the olfactory tract was found to give rise upon stimuli of 1 t...
blood pressure and decrease in the tonus of the gastric mus...
nearly always in the cat and always in the monkey the ele...
more consistently present in the monkey the inhibition of t...
frequently in the cat but in the great majority of instances ...
Photographs

BAIRD P C LINGLEY J.R & PALMER R.S Failure of roentgen ray therapy of pituitary and adrenals in essential hypertension
New England J.Med 211 952 953 Nov 22 1934
Conservative x ray therapy in 8 patients with severe hypertension started two years previously have been followed carefully since and no definite favorable effects have been noted in these advanced cases *Treatment consisted of roentgen radiation over pituitary or adrenals or both* The 8 case reports are reported briefly

BAKER H.H Evaluation of blood pressure by exercise
Int.J.Med & Surg 46 112 March 1933
There are two general types of hypertension
1 Normal reading constantly varies within normal limits depending on build age and temperament
2 *Abnormal must be proven by multiple checkings (a) functional hypertension* (b) pathologic changes (c) essential hypertension
The predisposing factor of Americanitis the necessity for removal of focal infection the importance of the diastolic pressure reading as a circulatory index are considered
The author reports the testing by exercise of cases of abnormal arterial tension as follows each case is checked by pressure readings taken by the auscultatory method in the position of rest semi tension or standing position by exercise to the point of dyspnea and at 3 and 5 minute intervals thereafter As a result of this study the author present a classification of 5 groups of hypertensives and 2 *groups of hypotensives*

BALLANTYNE A J Retinal changes associated with diabetes and with hypertension comparison and contrast
Arch Ophth 33 97 105 Feb 1945 comment by Elwyn 33 315 316 Apr 1945
The retinopathies of diabetes and of hypertensive disease are clinically and histologically separate entities In diabetes the lesions affect primarily the venous side of the circulation the changes noting venous stasis the familiar hemorrhages and exudates venous congestion and microaneurysms on the capillaries The last named may occur alone and are the earliest pathological changes in the diabetic fundus Histologically the earliest change appears as minute fatty granules in the endothelium with swelling of endothelial cells Most striking venous changes are formation of loops coils and networks predominant histological changes are phlebosclerosis and intra and pre retinal networks of large thinwalled vessels The hemorrhages in diabetic retinopathy occur chiefly in the central area of the fundus principally in the internuclear layer

In hypertensive disease the retinopathy affects primarily the retinal arteries Fatty granules are also observed but are more frequently found in the media and the adventitia Hemorrhages are usually circum papillary and striate owing to their situation in the nerve fibre layer Exudates are seen in the deep layers but also include patches of ganglioform degeneration in the nerve fibre layer

It may be that in both forms of retinopathy toxic factors induce the initial changes in the vessels that these factors are at least partly specific to diabetes or to hypertension and that their selective action on the capillaries and larger vessels accounts for the differentiation of the two forms of retinopathy

BALZER E & VOGT H Essential hypertension in young persons
Ztschr f klin Med 141 671 696 1942
A survey of the literature indicates that essential hypertension is found in 4 7 to 9% of all cases of raised blood pressures Examination of the cases previously found to have hypertension ten years later upon re-examination showed that only 22 4% still had hypertension This seems to indicate that for the majority hypertension is only a temporary condition

BANNICK E G & WATSON J R Acute vasospastic hypertensive disease with transition into malignant hypertension
Proc Staff Meet Mayo Clin 6 529 534 Sept 9 1931
Case report diagnosis of diffuse arteriolar disease with malignant hypertension and early renal insufficiency prognosis very poor The following conclusions are presented

1 Development of malignant hypertension with albuminuria and early renal insufficiency came as a result of glomerulonephritis

2 Marked arteriolar injury was proved by study of biopsy of pectoral muscle

3 Vasospasm was the chief factor at the onset and preceded demonstrable significant arteriolar disease

4 The diffuse vasospasm involved arteries as well as arterioles as suggested by the angina pectoris and abdominal crises although authors impression is that angina pectoris in cases like this is not all due *to coronary spasm but also to acute cardiac strain*

5 History of the onset suggests acute streptococcic infection as the chief etiologic factor

Illustrations

BARACH J H Constitutional factors in hypertensive disease
J A M A 91 1511 1514 Nov 17 1928
The author states the following An individual hereditary predisposition toward vascular disease develops an infection early in life which results in widespread general vascular injury This is followed after adolescence in the male by the neuro circulatory asthenia syndrome and after puberty in the female by the tonsil thyroid syndrome which persist throughout middle life eventually both terminate in hypertension in later life According to the author there is a very definite sequence of events indicating that hypertension is the end product of a pathologic continuity
Tables

BARATH E Arterial hypertension and physical work
Arch Int Med 42 297 300 Aug 1928
The curve obtained in a labor test developed by the author illustrates the regulating action of these organs vasomotor center vasomotor nerves etc which are independent of the otherwise variable blood pressure level

The labor test is performed as follows the blood pressure is measured at absolute physical rest then the patient is made to ascend at a slow pace two flights of stairs The blood pressure is measured immediately and each half minute for from 10 to 15 minutes afterward The data are registered in curves Normal curves of young persons show a slight elevation of blood pressure amounting usually to from 16 to 28 mm This increase is of short duration Two groups of hypertension can be distinguished

1 Slow and incomplete compensation of the hypertension after work (nephro sclerosis and chronic nephritis)

2 Slow but complete compensation (essential hypertension characteristic high blood pressure)

Graphs

BARATH E Psychoreaction of blood pressure causes
Ztschr f d ges exper Med 54 72 74 1927
The blood pressure of old people is very labile and has the tendency to react to stimulants very quickly The blood pressure increase remains after exertion or psychic excitation for a prolonged period of time

The psychoreactions may give us an explanation regarding their role in the causation of pathologic blood *pressure increase With excitation a temporary insufficiency of the blood pressure regulation mechanism is* noticeable which may become permanent if the excitation or psychological disturbances continue for a long period of time

BARCROFT H A study of the influence of adrenaline on the systemic blood flow
J Physiol Lond 75 339 345 1932

This paper describes changes in systemic flow in dogs after injection of adrenaline and demonstrates certain phenomena which adrenaline brings about Results

1 In some animals the systemic output is not much increased or decreased by adrenaline In others it is considerably increased

2 Evidence shows that the influence of adrenaline upon the peripheral resistance tends to decrease the systemic flow Influence of adrenaline upon cardio pulmonary system tends to increase systemic flow

3 Variable results of adrenaline injections appear to be due to variations in the extent of its influence upon the peripheral resistance and upon the cardio pulmonary system

Charts

BARCROFT H & WALKER A J Return to tone in blood vessels of the upper limb after sympathectomy
Lancet Lond 1 1035 1039 No 25 June 18 1949

Experiments are described which according to the authors are the first attempt to record the blood flow in the hand with the plethysmograph daily for a fortnight or so after sympathectomy in a large number of hands

Experiments were made on 14 sympathectomized hands 5 with normal vessels and 9 with abnormal vessels In every hand tested the most rapid flow was recorded either immediately after sympathectomy or on the following day

The average post operative blood flow in 5 hands with normal vessels was 46 ml per 100 cm of hand per minute After the first week it had decreased to 11 ml (a quarter of the maximal average post-operative rate) and after two weeks to 6 ml (1/8)

The average post-operative blood flow in the 9 hands with diseased vessels was 20 ml per 10 cm of hand per minute After the first week it had decreased to 7 ml (1/3) and after two weeks to 3 ml (1/7)

Recovery of tone occurs in the arteries arteriovenous anastomoses and capillaries The rate of recovery of tone after ganglionectomy was similar to that after preganglionic section

Tables Diagrams Plates

BARCROFT J NISIMARU Y & STEGGERDA F R Effects of intestinal rhythm on general blood pressure
J Physiol 74 490 498 April 1932

The intestine possesses the same kind of rhythm as the spleen the duration of the wave being about 20 to 50 seconds as recorded by plethysmographic methods These rhythmic contractions and relaxations of the intestines have a simultaneous effect on general blood pressure This is less marked than in the case of the splenic rhythm These rhythmic contractions of the cat s intestine can still be recorded after removal of the spleen and adrenals also after denervation of the intestines

BARKER L F Spastic paraplegia and visual disturbances (probably due to disseminated sclerosis) occurring in young patient manifesting also arterial hypertension and hyperthyroidism
Internat Clin 1 1 12 March 1931

Presentation of a clinical case whose chief complaints were of stiffness weakness and numbness in the lower extremities and back occasional loss of bladder control tremor of the hands disturbance of vision

Although the blood pressure oscillated somewhat it was continuously much above normal No signs of renal disease could be observed all renal function tests yielding findings within normal limits Assumption was that the arterial hypertension was of essential type though possible relation to the hyperthyroidism on the one hand and to the mild recurring headaches (possibility of migraine) on the other were considered The main diagnostic interest is centered in the disease of the nervous system

The existence of rather marked arterial hypertension association with some narrowing of the retinal arterioles suggested the possibility of an arteriosclerosis of the central nervous system against this diagnosis was the age of the patient and symptoms referable to the spinal cord

A discussion of the pathological anatomy of multiple sclerosis etiology of disseminated sclerosis and treatment of multiple sclerosis follows

BARKER L F Melanotic pigmentation of skin and mucous membranes associated with low blood pressure and severe gastro intestinal disturbances (Addison s disease of suprarenal glands)
M Clin North America 14 187 193 July 1930

Addison s disease of the suprarenal glands may be diagnosed with a great deal of assurance where there is characteristic pigmentation of the skin with deposits of melanin in the skin and in patches in the oral mucosa Blood pressure continues to be very low with marked asthenia and disturbing gastro intestinal symptoms Many cases are difficult to diagnose particularly if one of these cardinal symptoms is absent or only slightly marked

A case history is presented where doubt was expressed as to exact nature of the illness The later condition of the patient was much more characteristic of Addison s Disease

Since Addison s description of the disease in 1855 little has been added to the clinical symptomatology The knowledge of the pathologic anatomical changes has grown

Treatment consists of the daily injection of epinephrine over a long period of so called Muirhead treatment Temporary benefit was observed by use of McLean s suprarenal extract Grafts of healthy suprarenal tissue have been made though value is not yet seen

In addition to substitutive therapy measures were directed toward overcoming of Tuberculosis infection and infection in general Such measures consist of the administration of vitamins especially of foods containing vitamins A and C

BARKER L F Cystic tumor of medulla of suprarenal gland (paraganglioma) associated with early and persistent arterial hypertension with arterial thickening and with multiple hemorrhages within central nervous system causing epileptiform convulsions paralyses and psychopathic state

M Clin North America 14 265 268 July 1930

This is a case where the existence of a tumor of the suprarenal medulla is not recognized during life the patient presenting a history of early and persistent arterial hypertension with evidence of arteriosclerotic changes of renal damage and of multiple vascular lesions in the brain

Tumors of the suprarenal medulla have been believed to be very rare but it is possible that they would be discovered much oftener if they were systematically looked for

All investigators agree that arteriosclerosis of larger arteries without increase of blood pressure is not related to disturbances of the function of the chromaffine tissue for in such cases the primary degeneration involves the elastic elements The whole matter must still be considered to be sub judice Further investigations must be made before any definite decision can be reached

BARKER M H Significance and treatment of hypertension

Indust Med 10 93 93 March 1941

Short general article dealing with the following aspects of hypertension

1 Classification of hypertensive disease
2 Endocrine aspect of hypertension
3 Renal aspects
4 Benign and malignant hypertension
5 Influence of heredity
6 Emotional strain and treatment by sedatives
7 Physical findings regarding hypertensive patients

BARKER M H Symposium on nephritis cyanates (sodium or potassium thiocynate) in treatment of hypertension

Wisconsin M J 36 28 32 Jan 1937

A satisfactory reduction of the blood pressure may be associated with the maintenance of the cyanate content of the blood at 6 to 12% per 100 cc by the proper oral administration of potassium or sodium sulcho cyanate Such reductions may be expected in one half of the cases and the effect may be continued for several years The patient is much relieved symptomatically and there is often a great improvement of his cardiac and renal efficiency The cyanate content of the blood should not be permitted to rise above 20 milligrams per 100 cc because of possible vascular collapse and thrombosis

Charts

BARKER M H Blood cyanates in treatment of hypertension (with sodium or potassium thiocyanate)

J A M A 106 762 767 March 7 1936

The report covers observations on 45 patients with systolic pressures well over 200 who have been personally studied by the author during a period of from one to four years The patients have been given sodium or potassium thiocyanate and the concentration of the cyanates in their blood followed

The reduction of blood pressure and the relief of symptoms obtained in 35 of the 45 roughly corresponded to the level of the cyanates in the blood The optimum therapeutic level would seem to range between 8 to 12 mg per 100 cc and significant toxicity begins to appear at from 15 to 30 mg Individual tolerance varies greatly The cyanates may reach hazardous concentrations very quickly in some individuals so that the administration of the thiocyanates is believed to be dangerous unless controlled by close observation and blood cyanate determinations

Five illustrative case histories are presented

Charts

BARKER M H LINDBERG H A & TREGER N V Twelve year study of particular group of hypertensive patients before and after sympathectomy with reference to renal pathology

Proc Central Soc Clin Research 20 46 1947 also J Lab & Clin Med 32 1509 Dec 1947

A study of 25 cases of essential hypertension studied for 12 years by the Medical and Surgical services of a university hospital The correlation of vasomotor tests with the anatomic changes found in renal biopsies is reported here

During the period of the study numerous tests for vasomotor lability were introduced as an aid in the selection of cases suitable for sympathectomy These tests were compared with the anatomic changes found and the clinical course to date During the period of observation none of the tests showed a high degree of correlation with reference to these two factors

Even though some of the patients have bee i followed continuously for 12 years after sympathectomy the authors feel that proper case selection for surgical treatment of hypertension is still most difficult Their impression is that patients not responding to thiocynate therapy are unsuitable for sympathectomy

BARKER M H LINDBERG H A & WALD M H Therapy with thiocyanates clinical and experimental observations further experiences

J A M A 117 1591 1594 Nov 8 1941

A review of the uses and dangers of cyanate therapy based on the treatment of 246 patients with this drug Controlled thiocyanate therapy has relieved symptoms and reduced blood pressure in 47 5% of patients with hypertension Blood pressure reduction is effective only by adequate blood thiocyanate concentration of from 8 to 1 mg per 100 cc Improvement is to be expected in from 2 to 4 weeks However 3 months of persistent therapy may be required A maintenance dose must be individualized depending on symptoms blood pressure response and blood thiocyanate concentration (8 to 12 mg per 100 cc) The dosage varies in any one individual according to renal clearance fluid balance circulatory efficiency and seasonal variations Determination of the thiocyanate in the blood is the only safeguard to dosage control

BARKER N W   Hypertension and unilateral renal disease
Nebraska M.J 34 9 11 No 1 Jan 1949

A discussion of renal disease as cause of hypertension the extensive study of renal vasopressor substances to which this led and the possible explanation of the usual occurrence of hypertension in glomerulonephritis and the frequent occurrence of hypertension in polycystic renal disease and advanced bilateral chronic pyelonephritis

The author treated 5 cases of hypertension with nephrectomy All patients less than 52 years of age - one a child of 7 All had advanced disease of the kidney which was removed In all cases the other kidney was found normal as determined by functional tests and urographic examination

Removal of the affected kidney does not always cure the hypertension as it is not always possible to determine which condition developed first

There appears to be no clinical difference in the manifestations of the hypertension caused by unilateral renal disease and the hypertension not caused by unilateral renal disease

BARKER N W & BRAASCH W F   Course of hypertension after nephrectomy for advanced unilateral renal disease
Tr.Am A Genito Urin.Surgeons (1946) 38 157 167 1947

An analysis has been made of 61 cases of hypertension in which advanced unilateral renal disease was found and the affected kidney removed as treatment for the hypertension

Follow up studies in this group of cases have shown that 2 years after nephrectomy results were good in 41% fair in 16 4% poor 33% dead 10%

Condition of 32 patients was followed for 5 years Good results 31% fair 15 6% poor 34 4% dead 19%

Both good and poor results were noted among patients in different age groups both sexes and among patients with various degrees of severity of hypertensive disease Clinical analysis failed to reveal information of value in preoperative prediction of the effect of nephrectomy on the subsequent course of the hypertension No specific urologic or pathologic observations were noted in the affected kidneys which would indicate whether good or poor results would follow nephrectomy
Tables

BARLOW O W & SOLLMANN T   The effects of epinephrine on the response of the frog heart to stimulation of the accelerator nerve
J Pharm.Exp Ther 28 157 1926

Stimulation of the cardiac accelerator nerve produces little or no further aufmentation in hearts which are already nearly or quite maximally augmented by epinephrine

It is therefore not possible to increase the augmentor action materially by stimulating the accelerator mechanism simultaneously at the nerve and at the receptive mechanism

BARNES J & BROWNE F.J   Blood pressure of relatives of patients with toxemia of late pregnancy preliminary note
J Obst & Gynaec.Brit.Emp 52 559 569 Dec 1945

The blood pressure has been recorded in 226 relatives of 129 patients who were admitted to the hospital with pregnancy toxemia The blood pressure was also estimated in 66 relatives of 47 control patients who were not suffering from toxemia

A demonstrable difference in the levels of blood pressure has not been noted between the relatives of toxemia and control patients except in cases of essential hypertension and pregnancy The authors conclude that there is not any evidence that a hereditary tendency to hypertension is of any general importance in the aetiology of toxemia of pregnancy except in cases of essential hypertension and pregnancy
Tables

BARNES J & BROWNE F.J   Blood pressure and incidence of hypertension in nulliparous and parous women in relation to remote prognosis of toxemias of pregnancy
J Obst & Gynaec.Brit Emp 52 1 12 Feb 1945

An analysis of the blood pressures of 1 956 women including 915 nulliparous and 1 041 parous cases A statistically significant difference was not found between mean level of blood pressure in either group at any age nor in any age group between percentages of nulliparous and parous women with blood pressures over 120/80 or over 140/90

The number of pregnancies has no demonstrable effect on mean level of blood pressure in parous women Pregnancy does not cause chronic hypertension Pregnancy does not aggravate tendency to hypertension Though hypertension is a common remote sequel of toxemia of pregnancy it is not caused by the toxemia There is no evidence that pregnancy permanently aggravates hypertension which already exists when pregnancy starts
Tables

BARNEY J.D & SUBY H.I   Unilateral renal disease with arterial hypertension report of case apparently cured following nephrectomy
New England J.Med 220 744 746 May 4 1939

A case history of a 10 year old girl with an atrophic gunctionless and probably inflated right kidney This together with the fact that several blood pressure readings showed persistent hypertension the figures ranged from 185/130 to 200/170 led to the opinion that the case was probably one of hypertension resulting from unilateral renal disease 24 hours after nephrectomy was performed the blood pressure dropped to 110/70

BARR D P Recent advances in endocrinology relation to interpretation and understanding of commong symptoms
J.A M A 105 1760-1765 Nov 30 1935
Advances in study of glands of internal secretion cannot be judged solely or chiefly by the extent to which they lead to successful organotherapy but more by the profound influence they have on the understanding and interpretation of common symptoms
Consideration of their relation to hypertension obesity and disturbances in carbohydrate metabolism is of special importance because of the frequency of such manifestations because they are often encountered in the same individual and because in certain striking instances they are directly attributable to pathologic changes in the hypophysis or the adrenals
Although participation of these and other glands of internal secretion must be suspected in many cases of high blood pressure obesity and diabetes caution is necessary lest the newer knowledge be applied prematurely and too extensively in durgical and radiologic treatment

BARRY D T Functions of great splanchnic nerves
J Physiol 75 480 490 Aug 1932
A method was adopted for investigating the function of the great splanchnic nerve in the dog and rabbit by splitting the trunk longitudinally into two or three branches and stimulating each separately
Stimulation of a branch sometimes caused a fall of blood pressure accompanied by inhibition augmentation or no change of intestinal movements
Branch stimulation sometimes occasioned marked increased activity of intestinal movements with or without preliminary inhibition This reaction is similar to that given by stimulation of the vagus nerve but there is no evidence that parasympathetic system is in play

BARTELS E C & LEADBETTER W F Hypertension associated with unilateral noninfected hydronephrosis treated by nephrectomy
Lahey Clin.Bull 1 17 20 Jan 1940
This is the case report of a patient in whom the blood pressure returned to normal following the removal of a non infected nephrotic kidney
This case seems to give confirmatory evidence of the association of unilateral renal disease and hypertension Though the diastolic blood pressure continues at upper limit of normal the resultant post operative decline in blood pressure to the present level is satisfactory Apparent irreversible vascular damage inhibited any further drop in the diastolic blood pressure
The authors suggest that a complete study of the hypertensive individuals should include a careful renal study pyelograms are essential
Charts and Plate

BARTOS J A Problem of high blood pressure
Marquette M Rev 13 76 80 Feb 1948
A general article in which the author discusses briefly hypertension as a problem of health and considers etiology clin cal determination and prognosis
1 The discussion on etiology embraces renal aspects pressor substances and transient elevations of blood pressure
2 Clinical determination includes blood pressure determination study of the cardio vascular system examination of kidney brain and fundus
3 Treatment covers consideration of patient s way of life use of drugs venesection and surgical management

BARUK H LAPEYRE J & ALBANE Mean arterial pressure oscillometric index and orthostatic angiospasm in hebephrenia
Compt rend.Soc de biol 107 700 702 June 19 1931
A study of the circulatory system in dementia praecox 28 hebephrenic patients were selected who were designated by mental authorities as having the clinical aspect of stupidite (idiocy) At several intervals tests were done to ascertain mean arterial pressure oscillometric index and orthostatic angiospasm The resulting observations are presented

BASU N K Role of adrenaline in maintaining the normal tonus of organs of the body
Ind.J.M.Res 19 877 881 1932
The author poses the problem of whether if the secretion of adrenaline into the blood stream is continuous (1) how is it carried in the blood ? (2) what is the utility of this continuous secretion ? (3) how does adrenalin act ? No doubt nearly the whole of adrenaline is in the corpuscles
This was tested in frogs intestines From two series of experiments it was found that combination of adrenalin with protein and iron salt solutions produced the maximum effect Even in those cases where the dilution of protein and iron salt solution produced no effect in the intestine addition of adrenalin at once produced the desired effect
From the present series of experiments it was concluded that although it is true that adrenalin plays an important part in assisting the combination of oxygen with hemoglobin no support could be found for the belief that this combined oxygen is solely responsible for all the actions of adrenalin
The continuous secretion of adrenalin serves to keep up the normal tone of different systems This normal tone is kept up in two ways direct and indirect and there are two processes which work simultaneously
The indirect way was tested in the suprarenal glands of a number of guinea pigs The conclusion from these experiments is that adrenalin secreted in the body helps to keep up the normal tone of the systems by neutralizing the effect of choline which is also present in the tissues normally

BATTRO A BIDOGGIA H (et al) Intracardiac blood pressure in human subjects and its relation to the respiratory phases
Am Heart J 37 11 20 No 1 Jan 1949

By means of the cardiac catheterization technique and a Hamilton manometer pressure tracings were obtained from the right auricle and ventricle in 4 normal subjects in 6 patients with chronic pulmonary disease and in 4 patients with auricular fibrillation and heart failure A study was made of the influence of respiration on the intracardiac pressures

Observations are presented with regard to average macimum and minimum pressures and average systolic and diastolic blood pressures during expiration and in inspiration in the three groups designated Comparisons of the readings in the three groups are drawn
Charts

BAUER J & BELT E Paroxysmal hypertension with concomitant swelling of thyroid due to pheochromo cytoma of right adrenal gland cure by surgical removal of pheochromocytoma
J Clin Endocrinol 7 30-46 Jan 1947

Presentation of an unusual case where patient had symptom hitherto not described in the literature paroxysmal swelling of the thyroid gland accompanying simultaneousparoxysmal hypertensive crises Also extremely rapid and excessive variations in blood pressure are usually not associated with the syndrome

The swelling of the thyroid reached its peak and faded away concurrently with a rise and fall of blood pressure in each hypertensive attack

A cure of the feature and of the entire suprarenal sympathetic syndrome was effected by the surgical removal of the pheochrome tumor
Plates

BAZETT H C Circulation in pyrexia
J A M A 97 1271 1274 Oct 31 1931

The cardiovascular changes in experimental pyrexia from exposure to heat resemble in many respects those seen during fever but in other respects they differ considerably

1 The pulse rate varies in experimental pyrexia according to the body temperature in a manner similar to that in fever

2 The circulation rate is increased in experimental pyrexia probably also in fever

3 The blood pressure level is determined by the relation of heart output per minute to the average resistance to flow in the periphery but in the latter factor at least the conditions in experimental pyrexia and fever are probably not comparable

4 The metabolism is increased in pyrexia whether of experimental or infectious origin and this increased metabolism is likely to be associated also with some vascular dilatation in muscle areas

5 On exposure to mild warmth there is now a fall of systolic and diastolic pressure though there is some tendency for this fall to be less pronounced at the h gher temperatures

6 In fever a fall in blood pressure is commonly described The assumption that a low blood pressure usually accompanies fever seems to depend on a study of medical cases in surgical ca es where conditions are perhaps somewhat simpler to visualize the reverse is common The author comments upon this last observation in greater detail
Charts

BAZETT H C Factors in the causation of differential blood pressure
Am J Physiol Balt lxx 550 584 1 pl 1924

1 A schema consisting of rubber tubing with branches will give a slightly higher systolic pressure in the femoral vessel than in the carotid under intermittent distention and this difference is greatly exaggerated if the conditions of aortic insufficiency are simulated

2 These differences in the schema appear to be dependent on the kinetic energy of fluid in rapid motion to a water hammer action

3 In dogs the normal differences between the femoral and carotid or brachial may be exaggerated ex perimentally

4 The obstruction of blood flow in a large vessel produces a rise of the systolic pressure much greater in the vessels relatively close to the heart than in those more remote

BAZETT H C LaPLACE L B & SCOTT J C Estimation of cardiac output from blood pressure and pulse wave velocity measurements on subjects with cardiova cular disease other thanaort c regurgitation
Am Heart J 22 737 748 Dec 1941

It is shown that the stroke volume of the heart may be calculated from measurements of pulse pressure and pulse wave velocity on patients with various types of card ovascular disease (except aortic regurgitation) without apparent serious error

In cases of hypertension in which the cardiac output is well ma ntained the work wh ch the heart has to perform is shown to be high It is demonstrated that unless this work is performed under very favorable circumstances it must be accompanied by an increased oxygen intake by the subject and by an increased coronary circulation

Attention is drawn to the development of increased distensibility of the large vessel in two groups of patients (1) an older group with mainly aortic changes (2) a middle aged group with mainly peripheral arterial changes

It is shown that hypertension in case in wh ch there is temporarily no hypertension because of a low cardiac output may be recognized by such analysis even whenthe blood pressure is normal

BAZETT H C LaPLACE L.B & SCOTT J C Estimation of cardiac output from blood pressure and pulse wave velocity measurements on subjects with cardiovascular disease aortic regurgitation

Am.Heart J 22 749 753 Dec 1941

In patients with aortic regurgitation the degree of regurgitation may be estimated from the difference between values for cardiac output made by the acetylene method and a modification of the method of calculation from pulse pressure and pulse wave velocity By this procedure the regurgitation was found in two subjects to amount to 13 4 and 41 7 ml respectively

From data obtained in this study it appears that the presence of free aortic regurgitation may double the oxygen utilization of the heart and require an increase of over 500 ml per minute in the coronary blood flow The work of the left ventricle may be increased by approximately 50% or more

BAZETT H C LAPLACE L.B & SCOTT J C Pressure changes induced in vascular system as result of compression of limb and their effect on indirect measurement of lateral pressure

Am.J Physiol 112 182 201 May 1935

The problem was to determine the effects produced on the actual pressures by the process of compression and what criteria if any indicated the pressures existent in the system before interference by compression Results

1 It has been shown in dogs that the process of compression of a segment of the vascular system by an air column alters the actual pressures within the system at compression pressures which exceed diastolic pressure

2 The effects of compression on diastolic pressure may be very unequal in the two main parts of the main system

3 The changes observed on compression in dogs with aortic regurgitation are shown to indicate retrograde flow in the femoral artery during diastole

4 An oscillometric increase in pulsation is shown to be an accurate indicator of end systolic pressure a recordable peripheral pulse occurs at pressures above the true lateral systolic level but owing to the balance of opposing factors the total error is usually small

5 Dicrotic pressure may be fairly accurately estimated by oscillometric methods under favorable conditions

6 Diastolic pressure may be estimated by the development of a very rapid upstroke on the oscillogram as the vessel wall assumes a floating position at the same time or at a slightly higher pressure an initial negative wave usually precedes the upstroke of the peripheral pulse oscillogram or both

7 The flow of fluid along the angles of compressed arteries is denied fluid transmitted at compression pressures which exceed the lateral systolic pressure does so in the form of a wave of bolus type

Tables

BAZETT H C SCOTT J C MAXFIELD M.E & BLITHE M D Calculation of cardiac output from blood pressure measurements before and after meals

Am.J Physiol 116 551 562 Aug 1936

Eleven experiments have been made on 4 subjects in which estimations of cardiac output in the basal condition have first been made both by calculation and be the acetylene method Estimates of cardiac output by both methods 40 to 140 minutes after the middle of a heavy meal have alternated with one another in varying order Conclusions

1 Cardiac outputs can be calculated from the changes in blood pressure and pulse wave velocity following a meal with an accuracy of the same order as that obtained under basal conditions

2 Changes in cardiac output after a meal cannot be represented by a simple plateau curve

3 Changes in blood pressure and pulse rate are similar to those described previously in the literature Details of these changes are presented

4 A method of recording sternal movements is described and is utilized for the timing of the start of cardiac ejection The relationship of such curves to electrocardiograms is discussed

5 The time relations of the electrical and mechanical changes so measured before and after meals are described

6 A source of error in the preservation of acetylene samples over mercury is mentioned

Tables and Charts

BEASER S.B RUDY A & SELIGMAN A.M Capillary fragility in relation to diabetes mellitus hypertension and age

Arch.Int.Med 73 18 22 23 28 Jan 1944

Various methods for measuring capillary fragility were investigated Negative pressure methods were found to be unreliable Of the possible pressure methods which were tried on a group of diabetics Wright s method gave the most reliable results

A group of 54 adult patients (15 with hypertension) and 67 non diabetic patients (21 with hypertension) were tested by Wright s method The incidence of increased capillary fragility was greatest in the 5th and 6th decades The diabetic patients showed a greater incidence of increased capillary fragility at each age decade than the non-diabetic subjects

In diabetic hypertensive patients the tests showed a greater incidence of increased capillary fragility at the higher pressure levels (midway between systolic and diastolic pressure) as used by Wright than at a lower arbitrary level (100 mm of mercury) when performed simultaneously on the two arms

The authors draw no conclusions concerning the proper pressure at which the positive pressure test should be performed on hypertensive patients

The accompanying article discusses vitamin therapy in [illegible]
The effectiveness of oral administration of Vitamin C and the B-complex on the [illegible] in diabetic patients with and without retinitis has been tested with [illegible]

The effectiveness of both orally and parenterally [illegible] vitamin P in some patients of [illegible] were studied Both hesperidin and eriodictyol fraction of vitamin P were [illegible] combined with negative results

A similar study of the effect of vitamin P therapy on the increased capillary [illegible] purpure and rheumatoid arthritis was made with negative results

Tables and Charts

BECKER A.H MICHAELS J & WILBER C.B Vasopressor reactivity in cerebral vascular disease as measured by cold pressor reaction

J.Nerv & Ment.Dis 107 160 166 Feb.1948

This is a study of the cold pressor reaction in psychotic patients who had cerebral [illegible] 15 had meningo encephalitic syphilis 20 had cerebral arteriosclerosis Additional evidence is presented to support the belief that cerebral vascular changes associated with these clinical [illegible] increased reactivity of the vaso pressor centers as measured by the cold pressor test to w

a With advancing age there is an increased average cold pressor response

b With chronic syphilitic meningo-encephalitis there is increased vasopressor reactivity

c Patients with cerebral arteriosclerosis which is [illegible] advanced ([illegible]) [illegible] the most marked vasopressor reactivity

BECKER B.J P Hypertensive heart disease in Bantu and colored races of South Africa

South African J M.Sc 11 107 120 Nov 1946

The general incidence of hypertensive arteriosclerosis amongst Bantu and colored [illegible] 8 2% This is rather less than that which is found in the American Negro and rather more than [illegible] the American White Hypertensive heart disease is the commonest cardio vascular disease amongst the [illegible] people It is responsible for 1/3 of all cases of congestive failure of the heart and for nearly [illegible] of all deaths

BECKWITH J.R Symposium on general practice hypertensive vascular disease evaluation and management

Virginia M.Monthly 74 249 255 June 1947

A general treatment in the field of hypertension with reference to the following

1 Definition and classification

2 Physiology of hypertension

3 Pathological effects produced by hypertension (a) enlargement of left ventricle (b) arteriolar damage (c) renal damage

4 Relation of human hypertension to experimental hypertension

5 Clinical characteristics family incidence and prehypertensive state clinical manifestations of pathological processes (a) eyes (b) brain (c) heart (d) kidneys

6 Hypertensive toxemia of pregnancy

7 Grouping of hypertension (a) early or mild benign (b) moderate benign (c) late or severe benign (d) malignant syndrome

8 Clinical evaluation (a) fundoscopic examination (b) cardiac examination (c) renal evaluation (d) introvenous pyelogram

9 Management rest diet psychotherapy drugs sedatives nitrites thiocyanate renal extracts surgical treatment nephrectomy sympathectomy

BEDELL A.J Ophthalmoscopy and operations for high blood pressure

Am J Ophth 31 1630 1634 No 12 Dec 1948

The ophthalmologist often makes the original diagnosis of hypertension The prime symptoms for which he is consulted are intense persistent treatment resisting generalized headache or occipital or frontal distress frequently most intense in early morning hours

From the ophthalmoscopic standpoint there are two types of hypertension one with very slight vessel changes even after many years of high pressure the other accompanied by the rapidly progressing retinopathy extensive exudates and hemorrhages with or without retinal edema and an irregular outline of blood volume a spasm or white walled sclerotic vessels

BEECHER H K Adjustment of flow of tissue fluid in presence of localized sustained high pressure as found with varices of great saphenous system during walking

J Clin.Invest 16 733 739 Sept 1937

Venous pressures at the ankle level have been measured during walking in subjects having incompetent valves of the great saphenous system Gross edema was not present in the subjects studied A gross filtration pressure of the order of 50 cm H_2O in excess of the colloidosmotic pressure of the blood was shown to be present even during walking The conditions present are in some respects comparable to those found in the presence of a prolonged partial venous obstruction The normal reabsorption of tissue fluid at the venous end of the capillary as postulated and supported by many investigators is impossible here and all of the tissue fluid must be carried off by the lymphatics It is pointed out that failure of this compensating mechanism may be responsible for some of the severe complications of varicose veins

Tables Illustrations

BERRY M Influence of position of arm and body on pressure determined by auscultation
Prox.Staff.Meet Mayo Clin 16 29 32 Jan 8 1941

The diastolic blood pressure of normal subjects does not appear to increase significantly as the subjects change from the supine to an erect posture The apparent increase commonly noted seems to be the result of the pendant position of the subject s arm The increase in values for diastolic blood pressure readings which occur on lowering a subject s arm from the horizontal to the pendant position seems to be caused not only by the hydrostatic effects of gravity but also by engagement of the vascular system of the arm distal to the sphygmomanometer cuff

A good procedure for determination of the blood pressure of erect subjects is elevation of the subject s arm above his head rapid inflation of the sphygmomanometer cuff to produce a pressure above the systolic blood pressure and lowering of the arm to the level of the heart before the ordinary auscultatory method of determination of blood pressure is initiated

BERRY M R Vascular clinics mechanism and prevention of impairment of auscultatory sounds during determination of pressure of standing patients
Proc.Staff Meet Mayo Clin 15 699 702 Oct 30 1940

The physician frequently finds the auscultatory sounds very indistinct Such impairment of sounds seems to be referable to venous congestion distal to the cuff of the sphygmomanometer

If the arm of a standing patient is raised above his head until the veins are relatively empty if the cuff of the sphygmomanometer is then inflated so that a value exceeding that of the systolic blood pressure is obtained and if the patient s arm is then lowered impairment of auscultatory sounds will be prevented and determination of such a patient s blood pressure will be simplified

BERRY M R JR HORTON B T & MAC LEAN A R Importance of studying postural responses of pressure and heartrate with note on method of taking pressure in erect posture
M Clin.North America 24 1095 11 6 July 1940

The authors write In this review of postural maladaptation we have tried to present a working picture of the complex chain of mechanisms which allow man to walk instead of to crawl to point out that postural mal adaptations may occur in the presence of a variety of diseases which may affect any link of the postural adapt ation chain and account for many symptoms to stress the diagnostic value of the simple procedure involved in comparing the blood pressure and pulse rate with the patient in the recumbent and erect postures and finally we propose a simple method of taking the blood pressure when the patient is erect which obviates some of the errors which occur with vascular engorgement of the arm distal to the cuff

The authors suggest a procedure for recording the postural changes in blood pressure as a routine part of a physical examination which they feel yields practical results and fits easily into the routine of examination Illustrative case reports tables charts and photographs

BETHEA O W & HARDY W.R Deductions from physical examination of 1 850 individuals
New Orleans M & S.J 85 259 262 Oct 1932

A group of 1 850 people applying for employment were given physical examinations It was found that one blood pressure readings and pulse count gives insufficient data on which to base a determination of the individ ual s normal pressure and pulse rate The effect upon the blood pressure and pulse rate is remarkably affected by the purpose of the examination and other factors that influence the mental attitude of the examinee

BING R.J Formation of hydroxytyramine by extracts of renal cortex and by perfused kidneys
Am.J Physiol 1 2 497 503 March 1941

The author reaches the following conclusions

1 The production of a pressor substance presumably hydroxytyramine by decarboxylation of dopa occurs in extracts of guinea pig s kidneys under conditions of oxygen lack

2 A similar reaction takes place in ischemic cat s kidneys perfused with blood containing dopa

3 The amount of the pressor substance produced in the perfused kidney depends on the rate of flow through that organ

4 Perfusates of liver and gut of the cat produced under analogous conditions as well as cat s blood in cubated with dopa have no pressor properties

BING R.J & ZUCKER M.B Formation of pressor amines in kidney
Proc.Soc Exper.Biol & Med 46 343 347 Feb 1941

Since experiments by Holtz and Bing suggested that renal hypertension is due to a transformation of amino acids by the ischemic kidney experiments were performed to investigate

(a) whether amino acids other than those examined by Holtz could be transformed into pressor substances by renal tissue extracts or by perfused kidneys

(b) whether the enzymes responsible for this process varied with different species

(c) whether renin a protein found in renal extracts could transform dopa into hydroxytyramine

The details of the experiments performed and results obtained are presented and discussed In conclusion the authors state The decarboxylating enzymes contained in the kidney are specific for certain amino acids and vary with the species

Tables

BINGER C Psychotherapy in arterial hypertension critique
Bull.New York Acad.Med 21 610 615 Nov 1945
Brief report of an investigation made from a clinical and psychiatric study of 24 patients suffering from arterial hypertension These studies have revealed that Sufferers from arterial hypertension exhibit a disorder of personality which has been conveniently described by the term neurotic
The author then considers the therapeutic implications of the facts appearing from the study He points out the aim of psychotherapy is to treat the person not the vasoconstrictor mechanism An outline of several studies appearing in the literature is presented

BIRD D P Climate and altitude in treatment of hypertension and myocardial failure
J Florida M A 27 233 236 Nov'40
A suitable climate may be considered a natural aid in overcoming a tendency toward vascular disease Another important factor in the control of hypertension and cardiovascular disease is altitude A subtropical climate and moderate humidity and a low altitude afford the best natural environment for the treatment of essential hypertension and myocardial disease
Three case reports are presented by way of illustration

BISGARD J.D Blood pressure relation to hyperthyroidism
Ann.Surg 115 42-46 Jan 1942
As a physiologic response to hyperthyroidism the systolic blood pressure is usually slightly elevated It recedes to the normal level with relief of hyperthyroidism
In this series of 351 cases hyperthyroidism was associated with unquestionable essential hypertension in approximately 8% and with elevation of the systolic pressure above the physiologic level in 25%
Two types of cases are noted on the basis of changes of blood pressure following relief of hyperthyroidism
(A) Cases with fixed or established essential hypertension in which the blood pressure and the course of the vascular disease are not significantly influenced by the relief of hyperthyroidism
(B) Cases with latent or labile essential hypertension in which the blood pressure shows considerable reduction after relief of hyperthyroidism or approaches a normal level and maintains this level for a period of months or years
In many cases of the second type the pressure is observed subsequently to ascend
It is suggested that the relation of hyperthyroidism to hypertension in these cases is provocative and that hyperthyroidism merely precipitates or exaggerates hypertension which is latent
It is moreover suggested that in both types there is arteriolar disease differing only in degree In the first type the disease is more advanced rendering the vascular bed inadequate for even normal volume of blood flow In the second type the disease may be designated as preventive hypertension which progresses to the condition of the first type with the advance of time
Tables

BISGARD J.D Surgical treatment of hypertension (subtotal thyroidectomy splanchnic denervation)
Nebraska M.J 22 174 178 May 1937
The purpose of this paper is to suggest certain criteria for election of suitable cases of hypertension for surgical treatment the rationale of the surgical attack and to discuss the occasional association of hypertension with hyperthyroidism
Two cases of hypertension associated with hyperthyroidism are reported In one the hypertension was cured by the relief of hyperthyroidism by subtotal thyroidectomy in the other the hypertension was uninfluenced Of the various methods of surgical treatment of essential hypertension the operative denervation of the splanchnic bed has proved the most effective The rationale indications and limitations of this form of treatment are discussed The risk from the operation is comparatively insignificant and uncomplicated the procedure has no deleterious effect upon the patient

BISHOP L F A very high blood pressure clinic
Internat Clin Phila 36 s iii 58 62 23 pl 1926
Seven case reports are presented of 7 people who have been under observation for 10 years and over after attaining a blood pressure of 200 or more
The author states that the study of these people affords a wonderful demonstration of the compensatory nature of blood pressure and as they were all advised and treated in a similar manner some judgement may be formed of the value of the method employed
Photographic illustrations

BISSET A A Treatment of hyperpiesia by intestinal douches
Practitioner 124 241 245 Feb 1930
The author defines hypertension discussing it general characteristics and etiology Incidence of hypertension and life expectation statistics are quoted
Based on the theory of the colon as a possible source of pressor substances a series of cases of essential hypertension were treated with intestinal douches None of the cases of 25 males and 37 females showed evidence of renal changes or renal insufficiency Blood pressure readings taken before and immediately after the douche showed decreases varying from 10 to 40 mm Hg the pressure rising again to nearly the original figure in the course of 12 hours but showing over a period of days a definite decrease
The author writes The decrease that is observed over a course of 2 or 3 weeks is probably due to the removal and elimination of pressor toxins and harmful bacteria from the colon and to the therapeutic effects of the sulphur water on the mucous membrane of the colon

BOAS E P & SHAPIRO S Further observations on patients with hypertension and increased basal metabolic rate
Am.Heart J St Louis i 643 648 1925 1926
The basal metabolism rate was studied in a group of patients in order to bring further proof that the high readings in some patients with hypertension were not conditioned by the metabolic rate
The authors come to the conclusion that patients with diastolic hypertension and augmented heat production present a special syndrome which should be distinguished from Grave Disease as well as from uncomplicated hypertension
Tables

BODANSKY M AGRESS C M (et al) Mortality following bilateral adrenalectomy combined with renal decapsulation
Endocrinology 20 684 1936
The author found that the removal of the upper half of the renal capsules in addition to bilateral adrenalectomy increases the likelihood of either acute or chronic adrenal insufficiency in young rats In this study the periods of survival were much lower than those observed by other investigators Two rats though in a state of chronic adrenal insufficiency were alive 190 days after the combined operation

BOOTH G Organ function and form perception use of the Rorschach methods with cases of arterial hypertension
Psychosom.Med 8 367-385 Nov Dec 1946
Purpose of the research herein reported was to see how well and in what respects the Rorschach method differentiated the types of personality incident to a group of patients suffering from arterial hypertension from a group suffering from Parkinsonism and chronic arthritis The experiment is based on comparison of a group of 60 patients suffering from arterial hypertension with a group of 60 patients 30 suffering from arthritis and 30 from Parkinsonism
The two groups (one hypertensive (2) arthritic and Parkinsonian) showed specific preferences for certain types of responses which made it possible to distinguish between the two types of responses

BORDEN C Fundamental and clinical aspects of pulmonary hypertension
Minnesota M 31 1216 No 11 Nov 1948
A description of a technique of venous catheterization of the right ventricle of the heart especially the use of the Hamilton Manometer to record pressures optically through the catheter
The author indicates six disease states which are implicated in the pathogenesis of pulmonary hypertension
1 Mitral stenosis and cardiac insufficiency
2 Left ventricular failure from any cause
3 Congenital cardiac defects where the shunt of blood is from left to right particularly patent ductus arteriosus and inter auricular septal defect and occasionally Roger s disease
4 Pericarditis
5 Certain cases of pulmonary emphysema
6 Primary pulmonary arteriosclerosis

BORDLEY J 3rd & BAKER B.M.JR A consideration of arteriosclerosis of the cerebral vessels and the pathogenesis of hypertension
Johns Hopkins Hosp.Bull Balt xxxix 229 264 1926
An attempt to explain the more or less chronic states of arterial hypertension so frequently associated with arteriosclerotic changes upon the basis of a localization of these changes in the region of the vasomotor center The author thinks such changes could account for a reduction in the blood supply to this center and lead to a compensatory increase in arterial tension It also seems likely that when vascular changes take place in the brain stem there is an explanation for the occurrence of hypertension

BORDLEY J III & EICHNA L W Photographic study of evolution of retinal lesions in cases of arterial hypertension
Tr A.Am Physicians 55 270 281 1940
A presentation of photographs of the retinae of two individuals with hypertensive retinopathy who showed rapid alterations in the retina Each is accompanied by a detailed case history
The authors comment Thus far in the natural course of essential hypertension only a gradual diminution in arterial caliber has been observed in successive photographs There have been no changes in the arteries which could be correlated with the development of retinitis Our photographic data concerning the evolution of hypertensive retinitis are in accord with the admirable description given by Keith Wagerer and Kernohan in 1928
Charts and photographic illustrations

BORG F.H Procaine epinephrine solutions
J Am.Dent A 21 868 873 May 1934
Careful study was made of the effect of procaine epinephrine solutions on the pulse rate and blood pressure of 121 patients in the Cook County TB Hospital who had to have teeth extracted Four groups of patients (1) 54 good ambulant (2) 19 good semiambulant (3) 31 fair bed patients (4) 17 poor bed patients
Three procaine solutions having a different epinephrine content were used in each of 3 groups of patients Th results of 3 sets of observations are reported The blood pressure and pulse rate before anything was done to the patient the blood pressure and pulse rate 2 to 3 minutes after injection of the anesthetic the blood pressure and pulse rate after extraction was completed
It would seem that the small dosage of procaine epinephrine as employed in local anesthetic solutions has no consistent relation to the variations observed in pulse rate or blood pressure

BORTZ W.M Management of hypertension
Pennsylvania M.J 42 517 520 Feb 1939
Differences in the treatment of hypertension depend upon the complications and the individual emotional social and economic problems Individualization is the keynote for any success in the handling of hypertensive patients The use of drugs psychotherapy diets and surgery is discussed very briefly

BOSWELL F P Results of roentgen therapy (of pituitary and suprarenals) in essential hypertension
Indust.Med 7 251 253 May 1938
The author reports results of roentgen therapy as reported in the literature and gives details of the treat ment presently being employed in his own series of 25 cases age range 35 to 65 years 75% of the patients treated show symptomatic relief and about the same number experience a marked fall in blood pressure With most of these the status can be maintained with further treatment given at intervals of several months
He presents brief case reports illustrating therapeutic effects of roentgen irration

BOUCKAERT J.J & PANNIER R Reflex influences of venous pressure on circulation and respiration
Arch internat de pharmacodyn et de therap 67 464 486 June 30 194
The authors report experiments on dogs indicating definite effects on frequency of heartbeat arising from changes in venous pressure as follows
1 Elevating venous pressure accelerates the heartbeat section of one vagus does not modify this effect but section of both suppresses it
2 Elevation of venous pressure seems to have no effect on general vasomotor tone
3 Elevation of venous pressure produces reflex stimulation of respiration which is inhibited after section of both vagi

BOWERS J M Arterial hypertension analysis of 461 cases
Northwest Med 28 124 129 March 1929
461 cases of arterial hypertension have been examined It was found that females were affected about twice as often as males Largest group of persons was between 50 and 60 years of age married houseworkers and of approximately normal weight
Cardiac disease as a complication to the hyperten on played the most prominent role the arteries next and the kidneys least
Contrary to the usual statistics uremia occupied first place as the immediate cause of death

BOYNTON R.E & TODD R L Relation of body weight and family history of hypertensive disease to blood pressure levels in university students
Am.J.M Sc 216 397 402 No 4 Oct 1948
Relation of body weight and family history of hypertensive disease to blood pressure levels in 75 258 stud ents examined at the University of M nnesota Findings
1 In both men and women mean systolic blood pressures were found to r se as weight increased in each age group to 40 years of age
2 There was les effect of overweight on mean diastolic pressure
3 In men up to 40 years o erweight rather than age seemed to be an important factor in producing higher systolic pressures while in women both weight and age seemed to exert an influence on systol c pressure levels
4 Family history of hypertensive disease was associated with slightly higher mean systolic pressure n both men and women
Tables and charts

BOYNTON R.E & TODD R L Readings of blood pressure of 75 258 university students
Arch Int.Med 80 454 462 Oct 1947
There were 43 800 men and 31 458 women in this group most of whom were under 26 years of age The mean systol c blood pressure for men of all age was 1?2 mm and for women 111 mm
The mean ystolic blood pressure of womer showed a tendency to rise with age This trend was not seen in men
The mean diastolic pressure of men was 74 5 mm and of women 69 7 mm In both men and women th re was a tendency for the d astolic pressure to ncrease with age

BRAASCH W F Genito urinary surgery renal dise e as factor n hypertension
Am.J.Surg 56 209 215 April 1942
Discus ion of surgical or non n phrit c lesions causing hyperten on as ob e ved in a series of cases Such les ons include chronic and atrophic forms of unilateral pyelonephr tis renal neopla m renal lithias s hydro nephrosis tuberculos s polycystic kidneys and others seen less often All lesions of thi type are together not a frequent cause of hypertension in th s series less than 1% were amenable to ope at on U ograph c evidence of deformity in urinary tract does not always s gnify that renal le ion is n et olog c factor in hypertension no specific type of renal pathologic change observed w th hype tension The es ential factor is apparently an ntrarenal vascular intole ance which permits the secret on of pres or substanc s
The renal lesion amen ble to surgi al treatment wh ch occurs most often with hypertens on is cl on c unilateral pyelonephrit s in ts d ffuse atroph c or postoperative forms

BRAASCH W F   Surgical kidney as etiologic factor in hypertension
Canad M.A.J 46 9-15 Jan 1942

The author states that a unilateral non nephritic or surgical lesion of the kidney is not a frequent cause of hypertension The records of the writer show that the incidence of such lesions among patients with hypertension who are amenable to operation is less than 1%

Urographical evidence of deformity in the urinary tract does not always signify that the renal lesion is an etiological factor in cases of hypertension Many deformities have no clinical significance

BRAASCH W F & JACOBSON C E   Chronic bilateral pyelonephritis and hypertension
J Urol 44 571 579 Nov 1940

In an effort to ascertain the possible role of chronic renal infection or its associated pathologic changes in the production of hypertension a series of 180 cases (112 males 68 females) of chronic bilateral pyelonephritis was studied

1 Analysis revealed an incidence of hypertension of 26 1% or an increase of 6% over that found in the control group *This relationship holds true for all age groups Analysis by age group is presented*

2 An apparent relation was found to exist between the incidence of hypertension and the duration of symptoms of pyelonephritis In most cases the incidence of hypertension increased with the duration of symptoms

3 There is also a relation between the degree of pathologic change in kidneys and ureters and incidence of hypertension highest incidences occurring in those cases in which pathologic changes are most marked

4 Impaired renal function does not necessarily imply the presence of hypertension However hypertension was found twice as often in cases of impaired renal function as in those of normal renal function

5 Though it appears that pyelonephritis contributes to the incidence of hypertension the hypertension occurring in these cases is usually of a comparatively benign nature

6 The usual types of micro organisms found in infections of the urinary tract were found in the series of cases of pyelonephritis

7 Hypertension is occasionally observed in cases of mild or recurrent chronic pyelonephritis in which renal function is normal and there is no urographic deformity From various clinical data the hypertension *appears to be of independent origin and may be termed essential hypertension*

Tables

BRAASCH W F & STROM G W   Renal trauma and its relation to hypertension
Tr Am.A Genito Urin Surgeons (1943) 36 243 251 1944

A review of 50 cases with clinical evidence of renal trauma would indicate that although renal injury may be related to hypertension it is not a common cause Nephrectomy on three cases of hypertension resulted in lowering of blood pressure to normal

In 38 of 45 cases the blood pressure was found normal subsequent to renal injury In 6 other cases the degree of hypertension was moderate and the hypertension either existed prior to renal injury or was explained by factors other than renal

Hypertension due to renal trauma usually occurs in cases in which there is secondary renal infection This is in keeping with the fact that changes in the renal tissues secondary to chronic infection have been noted in most renal lesions which are known to cause hypertension

Summarized case histories

BRAASCH W F & WOOD W W JR   Clinic perinephritis and its effect on blood pressure
Tr.Am A Genito Urin.Surgeons (1942) 35 87 95 1943

The production of experimental arterial hypertension by cellophane perineohritis has suggested the question whether clinical perinephritis may be an etiologic factor in hypertension of human beings

A group of 70 cases of clinical perinephritis 52 males and 18 females mean age 38 3 years has been analyzed Some correlation between hypertension and perinephritis was found in only 4 28% of the group This is less than one half of the incidence of hypertension existing in a random sample of patients less than 50 years of age who register at the Mayo Clinic and in the author s opinion it is so low that it should be relegated almost entirely to chance

BRADBURY S & EGGLESTON C   Postural hypotension a report of three cases
Am.Heart J .St Louis i 73 86 1925

Three case reports show the extraordinary dependence of the systolic and diastolic blood pressure upon the influence of gravity as exerted through alterations in the positions of the body from the horizontal The rise of blood pressure in the head down position and the fall in the foot down position (erect position) occur almost immediately The reactions are those which would be expected if the whole peripheral vascular bed were always wide open inelastic and capable of accomodating the major proportion of the entire blood volume of the body The cause or causes of the absence of normal vasomotor control seem to be purely speculative

Tables

BRADLEY J.E & PINCOFFS M C   Association of adenomyosarcoma of kidney (Wilms tumor) with arterial hypertension
Ann.Int.Med 11 1513 1628 March 1938

Five cases are reported in infants and young children of embryonal adeno my sarcoma of the kidney Lowering of blood pressure resulted from surgical removal of tumor elevation of blood pressure resumed with recurrence of the growth

The paper concludes with a discussion of Wilms tumor and its possible relation to hypertension The authors feel that in the cases presented the hypertension might reasonably be a consequence of the tumor growth a belief which supports the view that there are clinical forms of hypertension of primary renal causation

Charts and illustrations

BRADLEY S.E Physiology of essential hypertension
Am.J.Med 4 398-415 No 3 March 1948

From a physiological standpoint essential hypertension is a vascular disease characterized by generalized arteriolar vaso-constriction which results in a sustained elevation in arterial pressure It is possible that smooth muscle in the arteries and veins also undergoes contraction but evidence of this is not conclusive

Cardiac damage is probably related to the burden of maintaining a normal flow of blood through the body against an augmented peripheral resistance Cortical neutral humoral and local reflex vasomotor activity all contribute in shaping the complex physiologic manifestations of the disease Too little is known to assigne pre eminence to any one factor in this process
Bibliography

BRADLEY S.E CHASIS H GOLDRING W & SMITH H W Hemodynamic alterations in normotensive and hypertensive subjects during pyrogenic reaction
J Clin.Investigation 24 749 758 Sept.1945

This is a study of the hemodynamic changes induced by the afebrile pyrogenic reaction (in premedicated subjects) in 2 normal and 6 hypertensive persons all free of gross cardiac pathology Results

1 In every instance cardiac output increased as a result of an increase in both pulse rate and stroke volume while total peripheral resistance decreased

2 In normal subjects and in some hypertensive individuals reciprocal changes in peripheral resistance and cardiac output resulted in adequate maintenance of arterial pressures

3 Normotensive subjects are capable of adequate vascular adjustment to postural change during the pyrogenic reaction Among hypertensives however even though adjustment may be adequate in the recumbent position orthostasis may result in a shock like state Observations herein reported indicate that a fall in cardiac output is responsible for circulatory inadequacy under these conditions

4 Renal hyperemia occurred in each instance studied and in 5 subjects in whom cardiac output and renal blood flow were measured simultaneously the renal fraction increased implying relatively greater vasodilatation in the renal vascular bed than in the rest of the circulatory system
Charts

BRAITHWAITE J V Specimens from case of congenital hyperplasia of the suprarenal cortex
Proc.R.Soc.M Lond 28 839 1934 1935

This is a report of an operation and post mortem examination of congenital hyperplasia of the suprarenal cortex The thymus was found to be very large there were some petechial hemorrhages 44 grams in weight (average weight at birth 7 7 grams) The pineal was slightly larger than normal The right suprarenal was large 24 grams the tissue normal There was a normal functioning ovary except two tiny collections of cells possibly testicular cells atypical There were also two large unerupted graafian follicles one of which contained recent hemorrhage

BRAM I Complications of obesity 125 cases
M.Rec 160 350 353 June 1947

The author considers briefly the advantages and disadvantages of obesity diabetes cardiovascular and other complications of obesity and like expectancy He then presents 7 case histories from a series of over 900 cases of adult obesity Of these 900 cases 125 presented a complicating arterial hypertension In 97 of these cases all were over 30 years the hypertension improved satisfactorily following partial or complete reduction of the weight to normal

BRAM I Arterial hypertension and mesntrual disturbances in thyroid disease effect of treatment with female sex hormone (progynon)
M.J & Rec 137 226 228 March 15 19 3

Progynon in tablet form is apparently of service in a substantial percentage of cases of arterial hypertension in association with thyroid disturbances The selection of cases that are most apt to be benefitted by progynon is still a matter for clinical study

Progynon by mouth is likewise beneficial in many cases of goiter in whom menstrual disturbances require correction In cases of single nontoxic goiter it would appear that the hormone acts synergistically with other measures given in the treatment of the thyroid condition

According to the author s experience progynon must be given in the 200 dosage un t tablets for patients similar to those mentioned by the author
7 illustrative case histories

BRAMS W A KATZ L.N & KOHN L Effect of abdominal d stention and release on pressure in arteries
Am.J Physiol 104 120 126 April 1933

The effects of induction and release of abdominal distention on venous pressure arterial pressure and cardiac stroke volume were stud ed in a series of 51 experiments on dogs Results

1 Pressure in the inferior vena cava rose when abdomen distended while pressure in superior vena cava slightly elevated but little affected Release of distention resulted in prompt return of pressure in inferior vena cava to normal

2 Arterial pressure fell in 27 of 48 experiments during distention of the abdomen and rose in 21 others In 34 experiments the fall to level below normal occurred on abrupt release of abdominal distention

3 On release of distention a fall in arterial blood pressure was usually obtained The fall in arterial blood pressure was 40 mm mercury in some nstances and was sustained at that low level in a few

4 The clinical importance of such a fall in arterial pressure on release of d stention as a cause of syncope and death is discussed and adrenalin suggested as a rational form of treatment in the emergency

BRANCH A & LINDER G C Association of generalized arteriolar sclerosis with high blood pressure and cardiac hypertrophy in chronic nephritis
J Clin.Investigation 3 299 316 Dec 1926

This is a report of observations concerning microscopic examination of the vessels of the kidney and other organs in 10 consecutive cases of chronic nephritis in young patients coming to autopsy after previous clinical observations and functional study for some time in the hospital The findings were

1 Cardiac enlargement in nephritis is the result of hypertension

2 The concurrence of arteriolar sclerosis so frequently with retinitis and hypertension shows that the presence of hypertension in nephritis indicates usually but not always a co existing arteriolar sclerosis

3 Arteriolar sclerosis may be absent when neuroretinitis and hypertension have existed for several months accompanied by renal insufficiency advancing to uremia

BRANNON E.S STEAD E A.JR WARREN J V & MERRILL A.J Hemodynamics of acute hemorrhage in man
Am.Heart J 31 407-412 April 1946

Studies of the hemodynamics were made in 13 patients with circulatory insufficiency resulting from acute blood loss

In all of the patients the femoral arterial pressure was below 100 mm of mercury In the 5 patients with cardiac index above 2 6 signs and symptoms of mild shock were present In the 8 patients with cardiac index below 2 6 the circulation was definitely abnormal

An increase in blood volume by the use of intravenous fluid always caused a rise in atrial and arterial pressure an increase in cardiac output and a fall in peripheral resistance

Circulatory failure from hemorrhage may be complicated by reflex vasodilatation such as occurs in the common faint

BRASHER C W.J Blood pressure in psychosis and psychoneurosis
Practitioner 129 692 701 Dec 1932

The author discusses the place of blood pressure readings in psychiatric practice endocrine deficiency and vagal and sympathetic antagonism He presents ten cases to illustrate the contrast between the systolic blood pressure observed in melancholia and those found in anxiety states and cyclothymia In no case was any sign of organic disease found He suggests that the remarkable variations in pulse pressure shown in these cases will assist differential diagnosis in psychiatric practice

The paper concludes with a consideration of the etiology of hypertension stress being laid on possible mental factors

BREAKEY J After effects of eclampsia with special reference to hypertension
Lancet 2 832 835 Oct 15 1932

In order to have standards for comparison the author controlled results by a follow up of a number of women who have had eclampsia and comparing the findings with those in normal parous women of corresponding parity and age Some of his conclusions are

1 After eclampsia the blood pressure rises more rapidly and to greater height than in normal parous women in whom there is steady rise of blood pressure up to age of 60

2 Chronic nephritis develops in a number of women after eclampsia in some cases severe enough to cause death

3 There appears to be a direct relation between the age and parity of the patient and the occurrence of hypertension and nephritis Both were likely to occur in multigravidae over 30 at time of attack Both occur more frequently after the antepartum type

4 No evidence is given that subsequent conception is rendered less likely by an attack of eclampsia Albuminuria is much more likely to complicate subsequent pregnancies after eclampsia than in normal cases

5 In a certain number of cases a toxemia sequence occurs Eclampsia may begin or end the sequence or may itself recur

Tables

BRIDGES W C JOHNSON A L SMITHWICK R.H & WHITE P.D Electrocardiography in hypertension study of patients subjected to lumbo dorsal splanchnicectomy
J A.M.A 131 1476 1480 Aug 31 1946

An examination of the electrocardiograms of 144 hypertensive patients subjected to bilateral lumbo dorsal splanchnicectomy preoperative approximately 2 weeks postoperative and one year or greater postoperative Films are compared and changes are correlated with Smithwick s system of types and groups

When patients with hypertension with electrocardiographic evidence of cardiac strain (which evidence is often the first sign of impending or of actual heart disease) are subjected to bilateral lumbodorsal sympathectomy they frequently show an improvement in the hypertensive electrocardiographic pattern one year or more postoperatively in keeping with the lightening of the hypertensive cardiac load

Tables and Charts

BRIDGES W C & WHITE P D Diastolic hypertension (with special reference to sympathectomy)
M Clin.North America 31 1105 1120 Sept 1947

A presentation of forms of medical and surgical treatment for hypertension is discussed The following are discussed under the heading Medical Treatment

(1) Psychotherapy

(2) Rest

(3) Dietary Treatment including rice diet and low sodium diet

(4) Drug therapy including potassium thiocyanate the nitrites Mannital Hexanitrate Tetraethylammonium bromide or chloride and Dibenamine

Under Surgical Treatment are discussed the 5 types of sympathectomy
1 Subdiaphragmatic splanchnicectomy of Craig and Adson
2 Supradiaphragmatic sympathectomy of Peet
3 Thoracolumbar splanchnicectomy or lumbodorsal sympathectomy of Smithwick
4 Total thoracic sympathectomy
5 Subtotal or total paravertebral sympathectomy of Grimson

Indications for treatment include Age Sex Renal Function Pulse Pressure Response of blood pressure to cold pressor test Sedation test Pyelonephritis

The results of sympathectomy and the complications of sympathectomy are discussed Illustrative cases are given including problems encountered in selection of patients for treatment by sympathectomy and the use of certain tests that are helpful in appraising their hypertension

Tables and Charts

BRIGGS J F & OERTING H Prognostic value of cold test in pregnancy (aid in determination of latent hypertension)
Minnesota Med 20 382 384 June 1937

Cold tests were done on 233 consecutive routine prenatal patients As a result of this test it was found that

1 Only two hyper reactors were found in the group with no familial history
2 In those instances where one or the other parent had hypertension the offspring gave hypo normal normal or hyper reactions
3 The offspring of pure hypertensive families always gave hyper reactions
4 No cases of toxemia of pregnancy that were of hypertensive origin occurred in the normal reactor group
5 Of the combined hyper reactor groups only 11 patients escaped elevated blood pressure at the end of gestation

BRIGGS J F & OERTING H Vasomotor response of normal and hypertensive individuals to thermal stimulus (cold)
Minnesota Med 16 481-486 July 1933

The vasomotor response to the stimulus of cold was ascertained in 124 individual In addition isolated responses of individuals suffering from various diseases were obtained

It seems that hypertensive individuals reveal an apparent specific type of response in both males and females This response in the hypertensive patients is a more marked elevation of the systolic blood pressure with a slower return to the basal pressure resulting in a curve of the plateau type

Normal individuals have also apparently a specific response which is shown by both sexes in a rapid rise and fall of the systolic pressure producing a peak type curve

BRITTEN R.H & WALLACE C.R Consecutive readings of pulse rate on a small group of clerks
Publ.Health Rep Wash 45 3128 3135 1930

The group studied consisted of 11 men and 11 women apparently well performing work of a clerical nature The age height weight of each individual was taken into consideration The pulse rate of this small group varied from 91 4 to 65 6 with an average of 74 6

BRODIN P Clinical remarks on hypertension and the kidney
N.Engl.J M 211 1195 1934

Resume of address by Arthur M Fishberg whose remarks concerned the renal manifestations of primary renal hypertensive disease

1 Fatal renal insufficiency develops in only a small proportion of individuals with essential hypertension The younger the hypertensive individual the more apt he is to succumb to renal failure
2 The most generally u eful test for estimating functional efficiency of the kidney in patients with essent ial hypertension is by specific gravity tests
3 Developments of renal insufficiency in essential hypertension can often be foretold from ophthalmosco pic findings
4 Benign paroxysmal hematuria in hypertensive subjects was discussed
5 Clinical picture of left ventricular failure in essential hypertension is noted

BROTCHNER R.J Etiology of hypertension resulting from coarctation of aorta
Arch Path 28 676 696 Nov 1939

Coarctation of the aorta is described as observed in 5 adults The condition was diagnosed in 3 of them during l fe

An experiment is presented in which acute hypertension was produced by stenosis or occlusion of the aorta at a level above the origin of the celiac artery The hypertension experimentally produced is shown to be independent of the kidneys

The similarity of this acute experimental hypertension to that accompanying coarctation of the aorta in adults is discussed and further cl nical and experimental evidence is pointed out to show that the hypertension associated with coarctation of the aorta is also due to mechanical obstruction and not to renal ischemia with its pressor substance

Charts

BROUHA L & HEATH C W Resting pulse and blood pressure values in relation to physical fitness in young men

New England J Med 228 473-477 April 15 1943

Data obtained through series of measurements made on 265 college students selected without reference to athletic ability and physical fitness Control group of college athletes age range 17 to 22 years Findings

1 Wide variation in pulse and blood pressure in normal healthy young men

2 No satisfactory relation between basal pulse sitting pulse and physical fitness for strenuous exertion in normal healthy young men

3 No relation between sitting systolic or diastolic pressure and physical fitness for strenuous exertion in normal healthy young men

4 Emotional factors are largely responsible for high resting pulse rates in pre-induction medical examination

5 In normal young men no measurement of pulse or blood pressure taken at rest is indicative of capacity to perform hard work

Tables and charts

BROWER D Relations of visuo-motor conflict to personality traits and cardiovascular activity

J Gen Psychol 38 69 99 Jan 1948

The purpose of this study was to determine the value of experimentally induced disorientation by visuo motor conflict as a significant approach to many problems in the field of emotion and personality The following questions are dealt with

1 To what extent is the technique of visuo-motor conflict a measure of emotionality as registered through the use of cardio vascular indications ?

2 What specific personality traits as measured by various psychometric devices are related to the degree of disorientation induced by visuo motor conflict ?

Tables

BROWER D Relations between Minnesota multiphasic personality inventory scores and cardiovascular measures before and after experimentally induced visuomotor conflict

J Social Psychol 26 55 60 Aug 1947

This is an attempt to investigate the relationship between the scores on the Minnesota multiphasic personality inventory and cardiovascular measures before and after experimentally induced visuo motor conflict 48 students aged 17 to 52 23 female and 25 male served as subjects and were tested with a modified Snoddy Maze blood pressure and pulse rate being taken before and after this procedure Findings

1 Rather high correlative trends were found between cardiovascular measures and certain subscores of the personality inventory obtained prior to induction of visuomotor conflict these vanished to zero or negligible significance levels when correlated after the visuomotor test Implications of these findings for general methodological interest are discussed

2 Those showing strong hypochondriacal tendency by the inventory criteria also have high pulse rates before the onset of the experiment to an almost perfect degree of correlation

Tables

BROWER D Relation between certain Rorschach factors and cardiovascular activity before and after visuo motor conflict

J Gen Psychol 37 93 95 July 1947

The purpose of this work was to determine the relationship between four representative categories of the Rorschach test and the blood pressure and pulse rate readings of change before and after the induction of visuo motor conflict The Rorschach Test individual form was administered to 38 undergraduate students

Rank difference correlations between physiological measures and certain Rorschach factors are presented The author discusses the results of these correlations and sets forth his conclusions

Tables

BROWER D Relation between intelligence and cardiovascular activity before and after visuomotor conflict

J Genet Psychol 70 233-235 June 1947

The purpose of the experiment was to determine the effects of intelligence upon the cardiovascular responses immediately before and after the induction of visuomotor conflict Subjects were 48 N Y U undergraduates Tetrachoric correlations were computed between intelligence quotient and each of the following both pre- and post experimentally

(1) Diastolic blood pressure (2) Pulse pressure (3) Pulse rate

The author draws the following conclusions

1 Further evidence is offered for the hypothesis that general intelligence as measured through the use of a standard intelligence test battery constitutes a limiting value upon behavior under experimentally induced visuo motor conflict as manifested through the cardiovascular sector of the autonomic nervous system

/ 2 However after the stress experiment only the pulse pressure maintains a mutually exclusive correlative trend with general intelligence

BROWER D Respiration and blood pressure in sensory motor conflict
J Gen Psychol 34 47 58 Jan 1946
The purpose of the study was to determine the effects of sensory motor conflict upon respiration and blood pressure Conflict was defined as the coexistence of two or more antagonistic response tendencies Subjects were 18 male N Y U students age range 17 to 37 The results cover the following
1 Relations between basal scores and deviations of conflict scores
2 Relations between the basal values and the total scores in the conflict interval
3 Relation between time and error
4 Relations between the time and error scores and the circulatory and respiratory data
5 Relative importance of circulation and respiration as frustrative indicators
6 Relation between pre-conflict and post-conflict periods
7 Recovery quotients
8 Inter relationship between respiratory pause intervals and other respiratory variates
The author presents tentative inferences to be considered as hypothetical trends and subject to verification on a larger group of subjects
Tables

BROWN G.E The role of the sympathetic nervous system in essential hypertension
Proc Interst Postgrad.M.Ass.N.America 256 260 1933
The author recorded the blood pressure of individuals during the course of 24 hours to determine the average levels and the responses to environmental stimuli In order to save time the cold pressor test was given In subjects with essential hypertension the cold stimulus produced an increase in blood pressure three to five times that obtained in normal subjects It is the author s opinion that this hyper reactibility has an aging organic effect on the arterioles
The explanation of the hyper reactibility might be that the sympathetic nervous system and its centers in the medulla show deviations from normal That is where perhaps the essential change in the mechanism producing those hyper reactions of the blood pressure occur

BROWN G.E & ROWNTREE L G Right sided carotid pulsations in cases of severe hypertension
J.Am.M Ass Chicago lxxxiv 1016 1019 1925
In women with marked hypertension a pronounced pulsation is often encountered in the lower right cervical region beneath the sternomastoid muscle This pulsation is due to knicking or buckling of the right carotid artery caused by the adjustment of a lengthened carotid artery to the decreased distance from the aorta to the skull Because of the protrusions of the angle of the carotid from the margins of the muscles the soft tissues of the neck participate in these pulsations The mere knowledge of the existence of such pulsations and an appreciation of the mechanism whereby it is produced will facilitate its recognition and diagnosis
Illustrations

BROWN G.E.JR WOOD E.H & LAMBERT E.H Effects of tetra ethyl ammonium chloride on the cardio vascular reactions in man to changes in posture and ex posure to centrifugal force
J.Appl.Physiol 2 117 132 No 3 Sept 1949
Studies of man s reactions to the effects of gravity produced by tilting erect to 70 degrees from the supine position or by exposure to positive acceleration reveal that a fall in arterial blood pressure and an increase in heart rate result These physiologic effects are quickly compensated for by reflex mechanisms mediated by the autonomic nervous system which produce an increase in arterial pressure at heart level and a subsequent slowing in heart rate
The intravenous injection of 5 5 to 7 7 mg of tetra ethyl ammonium chloride per kilogram of body weight has been found to block these reactions for periods of 5 to 15 minutes so that arterial pressure continues to fall often to levels that produce symptoms of cerebral anoxemia The marked decreases in arterial pressure fail under these circumstances to produce compensatory alterations in heart rate

BROWNE F.J Chronic hypertension and pregnancy (William Meredith Fletcher Shaw memorial lecture)
Brit.M.J 2 283 287 Aug 23 1947
Chronic hypertension constitutes about 25% of all cases of toxemia of pregnancy It must be differentiated from chronic nephritis and pre eclamptic toxemia In the chronic hypertensive the blood pressure tends to fall to a normal level in the second three months of pregnancy It may or may not rise again in the later weeks If the systolic blood pressure rises above 160 mm mercury albumin is likely to appear in the urine and the foetus dies in utero The reasons for these occurrences and the relation between them are discussed Except in the more severe cases with signs of renal involvement retinal arteriosclerosis exudates or papilloedema there is no need to terminate the pregnancy in the early weeks If the pregnancy is allowed to continue treatment should be aimed at keeping the blood pressure below the danger level of 160 mm Hg For this the best agent is rest if necessary in bed With careful supervision most patients with chronic hypertension go to term and deliver themselves spontaneously of living infants In those patients in whom the pregnancy is allowed to continue the outlook for a successful pregnancy depends chiefly on the height of the blood pressure at the beginning of pregnancy If its over 150/100 only about 33% give birth to viable infants The incidence of pre eclamptic toxemia is about 7 times and of eclampsia 10 times that in women who are normal at the start of pregnancy
There is no reason to believe that the hypertension is permanently aggravated by the pregnancy
Tables

BROWNE F.J Reactions to pressor substances in normal and toxemic women
J Obst & Gynaec.Brit Emp 50 254 259 Aug 1943
This report deals with the results of tonephin injections and cold pressor tests in a series of healthy nulliparae not pregnant normal pregnant women normal puerperal and toxemic women
Evidence has not been found of the presence of an inhibitory (antipressor) substance in normal pregnant women ot appears that a sensitizing substance possibly present in normal pregnancy makes the patient more sensitive to pressor substances than the non pregnant woman
The pre eclamptic patient is much more sensitive to the action of pressor substances than either normal non pregnant or normal pregnant women Some of the possible reasons for this are discussed A similar sensitivity is present in the patients with chronic hypertension in pregnancy i e patients in whom chronic hypertension existed before pregnancy
The hypersensitivity characteristic of the patients with pre eclamptic toxemia continues in the puerperium. *It is not known whether or not it is permanent or universal The same hypersensitivity is present* in the normal puerperal woman who has had a normal (non toxemic) pregnancy
Tables

BROWNE F.J Cold pressor test in pregnancy (in relation to toxemia)
J Obst & Gynaec.Brit.Emp 47 365-370 Aug 1940
The paper records the results of the cold pressor tests in a series of 52 normal primigravidae The tests were undertaken in order to assess their value in picking out patients who might later develop pre eclamptic toxemia The peak of systolic pressure reached during the test seems to be of value in this respect If the peak is over 150 mm Hg the patient is very likely though not certain to develop toxemia later

BROWNE F.J & DODDS G.H Remote prognosis of toxemias based on follow up study of 400 patients in 589 pregnancies for periods varying from 6 months to 12 years
J Obst & Gynaec.Brit Emp 46 443 461 June 1939
This report is based on a study of 400 patients in 589 pregnancies personally followed up for periods varying from 1? years to 6 months The cases are grouped into pre-eclamptic toxemias eclamptics hypertensives, chronic nephritis and recurrent toxemias The residual lesion after pre eclamptic toxemias was invariably hypertensive which resulted in 50 9% Chronic glomerular nephritis did not occur as a result in any patient The residual lesion after eclampsia was also hypertension which resulted in 60 8% Chronic glomerular nephritis did not occur in any patient as a result of eclampsia
Of the hypertensive patients 9 2% were dead within the 12 year period The authors suggest however that the majority of patients who have simple hypertension pass through pregnancy without any demonstrable deterioration in their general condition
Tables

BROZEK J CHAPMAN C.B & KEYS A Drastic food restriction effect on cardiovascular dynamics in normotensive and hypertensive conditions
J Am.M Ass 137 1569 1574 No 17 Aug 21 1948
Recent experimental and epidemiological observation indicating that drastic food restriction usually causes lowering of the blood pressure in normal persons and in persons with hypertensive disease are reviewed The same report indicates that during recovery from semi starvation the cardiovascular dynamic balance is so disturbed that cardiac failure may occur The blood pressure in previously normal persons returns to normal levels during recovery from semi starvation and in some instances according to European reports may go well above the upper limits of normal Particularly striking are the descriptions of an epidemic of hypertension and hypertensive cardiovascular dise se which occurred after the lifting of the siege of Leningrad in 1943

BRUCE N.B MARTIN R T & SMIRK F.H Effect of initial level of pressure upon response of human subject to pressure raising reflexes (cold pressor test)
J Physiol 103 412 416 March 28 1945
This is an attempt to study in normal subjects the effects of changes induced in the level of the blood pressure upon the magnitude of the response to a pressor reflex
The response to the cold pressor reflex in normal human subjects was measured (a) with blood pressure at a normal resting level (b) with blood pressure maintained at elevated level by means of (1) Adrenaline ( ) ephedrine (3) by a reflex from ischaemic muscle
Results In healthy subjects the response to pressor reflexes appears to decrease as the initial level of the blood pressure is artificially raised
These observations lend no support to the idea that in essential hypertension the enhanced reactivity of the blood pressure to pressor reflexes is due merely to the higher initial level of the blood pressure
Instances are cited in which the sum of the separate responses of an individual to two blood pressure raising stimuli applied at different times was found to be greater than the response to the same two *stimuli* applied simultaneously
Charts

BRUGER M & CARTER R F Nephro omentopexy and nephromyopexy in treatment of arterial hypertension
Ann.Surg 113 381 391 March 1941
An attempt has been made to increase the vascularity of the kidney in nine patients with arterial hypertension by means of nephro omentopexy and nephro myopexy The clinical and experimental basis for these operations the operative approach and the postoperative course are described in detail
Unilateral nephro omentopexy is frequently followed by an appreciable fall in blood pressure which persists for 2 to 3 months following the operation but in mo t instances within 6 months the blood pressure returns to the preoperative level It is too early to make any statement concerning the effect upon the blood pressure of the bilateral operations (3 patients) only two months having elapsed since these were carried out

Six of the nine patients in this series were relieved of most of their symptoms for 2 to 11 months following nephro-omentopexy The relief from headaches and vertigo was particularly striking in four of these Improvement in the degree of retinopathy was observed in two patients progressive retinal lesions were noted in one cardiac and renal functions were not affected adversely nor was improvement in their respective efficiencies observed
Tables

BRUCER M & ROBINSON S C Hypertension and kidney function relationship of albuminuria to blood pressure weight body build and surface area
Am.J Clin Path 10 800 812 Nov 1940
This is a study to determine what relationship exists between different levels of blood pressure and albuminuria Fot rhis purpose the association of albuminuria with age weight build height surface area mean blood pressure and pulse pressure is presented
Albuminuria is found far more frequently among hypertensives than among persons with normal blood pressure One fourth of the hypertensive groups showed albuminuria whereas only 8% of the low pressure groups showed albumin in the urine
It would seem from this and other studies that hypertension is not a benign disease and albuminuria is an early sign of renal impairment
Tables

BRUGER M ROSENKRANTZ J.A & LOWENSTEIN B.E Morphology of adrenal cortex and excretion of 17 ketosteroids in patients
Am.J.M.Sc 208 212 216 Aug 1944
Inthe present study the incidence of morphologic changes in the adrenal cortex of 65 hypertensive and 70 normotensive patients was reinvestigated In addition the excretion of one of the end products of adreno cortical metabolism (the urinary 17 ketosteroids) was determined in a group of 14 normotensive (20 to 76 years) and 40 hypertensive subjects (28 to 70 years) Conclusions
1 There is no difference in incidence of hyper plastic or adenomatous changes in the adrenal cortex of hypertensive and normotensive subjects
2 The urinary excretion of 17 ketosteroids is significantly lower in hypertensive than in normotensive subjects
Some theoretical considerations are offered to account for these findings

BRUYNER P Relation of neurocirculatory dystonia to essential hypertension angina pectoris and peptic ulcer
Acta med.Scandinav 126 177 184 1946
The writer has studied the incidence of anamnestic neurocirculatory dystonia symptoms in clinical and polyclinical material consisting of 1 362 cases It has been established that neurocirculatory dystonia symptoms were clearly more general with those persons under 40 years of age whose systolic blood pressure was over 140 mm of mercury or diastolic blood pressure over 100 mm For persons over 50 anamnestic data on earlier neurocirculatory dystonia symptoms was less common in the case of patients with elevated systolic blood pressure and especially of those with high diastolic blood pressure
The writer is of the opinion that the same instability of the nervous and vasomotoric systems which is responsible for the neurocirculatory dystonia syndrome is at least in part the cause of juvenile hypertension but on the other hand not of essential hypertension in any noteworthy degree

BRUNNER R & SEED L Blood pressure and pulse rate changes during thyroidectomy
Surg Gynec & Obst 70 731 740 April 1940
The authors present a statistical analysis of the blood pressure and pulse rate readings during anesthesia in over 600 thyroidectomies on patients with varying degrees of thyrotoxicosis
An effort was made to correlate the changes during operation with the clinical picture The readings were averaged in certain groups of cases and a composite chart of the averages was made as follows The average curves in 195 cases of uncomplicated non toxic goiter the average curve in 322 cases of moderate severity the average in 58 cases with severe thyrotoxicosis the effect of hypertension on the anesthetic record the effect of respiratory obstruction the effect of hemorrhage a comparison of the averages in the first and second stage of 22 cases with two stage operations and the anesthetic records for four deaths during or following thyroidectomy
There appears to be a direct relationship between the rise in blood pressure and the degree of toxicity at the time of operation Although this reaction may be sharp it is the pulse rate that gives the best index as to prognosis
Tables

BRUNSCHWIG A Paroxysmal hypertension from pheochromocytomas (recovery following removal of tumor)
J A.M.A 134 253 254 May 17 1947
Four patients from whom pheochromocytomas of the adrenal gland were removed and in whom there were associated attacks of paroxysmal hypertension were followed for 10 5 2 years No recurrence of hypertension were observed and other ill effects were not observed to develop subsequently which might be ascribed to the tumors or the paroxysmal hypertension
One instance of calcified adrenal cyst associated with the sudden onset of sustained hypertension was also recorded The hypertension has persisted for 6 years and 3 months after removal of a cyst and involved adrenal gland but there is no evidence that this tumor was an etiologic factor in the hypertension

CABOT CASE 20172 Cardiac hypertrophy hypertensive type lobar pneumonia septecemia pneumococcus
New Engl M J 210 920-924 April 26 1934
A description and discussion of clinical findings and treatment of the case diagnosed as follows
(A) Clinical diagnosis Hypertensive heart disease arteriosclerosis lobar pneumonia right middle lobe right scrotal hernia
(B) Anatomic diagnosis Lobar pneumonia right upper lobe septicemia pneumococcus acute fibrinous pleuritis with effusion hydropericardium slight cardiac hypertrophy hypertensive type chronic vascular nephritis early adrenal adenoma

CABOT CASE 19181 Substernal goiter hypertensive heart vascular nephritis
New England J Med 208 955 957 May 4 1933
Case report of male aged 64 whose clinical diagnose were substernal goiter chronic nephritis with hypertension uremia
The account of the case is followed by a clinical discu sion and a consideration of the pathologic findings at autopsy

CABOT CASES 16311 16312 Essential hypertension two cases illustrating clinical findings and management
New England J Med 203 232 237 July 31 1930
A description and discussion of clinical finding and treatment of two cases diagnosed as follows
1 Essential hypertension secondary renal changes arteriosclerotic and hypertensive heart disease bronchial asthma
2 Essential hypertension

CABOT CASE 16022 Relation of vertigo in hypertension and of cerebral accident to the weather
New England J Med 202 82 85 Jan 9 1930
The case history of a patient suffering from vertigo The patient experienced his customary vertigo until the 12th and 13th of the month when he was dizzy continuously This occurred on the days showing the highest relative humidity It is suggested from this observation that on days with a high relative humidity when the body loses heat and moisture the surface capillaries are dilated and the blood pressure is lower than is customary for that individual and this may be the explanation of the vertigo

CADBURY W W Blood pressure of normal Cantonese students
China M J 37 715 8?3 19?3 also Arch Int M 30 362 37? 1922
The author reviews briefly the following
(1) Methods of reading blood pressure (2) Systolic pressure (3) Diastolic and pulse pressure
(4) Influence of age on blood pressure (5) Other factors causing normal variations in blood pressure
(6) Blood pressure racial variation (7) Blood pressure of Chinese
He then reports his own study in detail The data were obtained from healthy Cantonese students age 7 to 30 years
He concludes A study of the blood pressure of 774 healthy male Cantonese youths shows that their average systolic and diastolic pressures and to a lesser degree the pulse pressures are lower than the standards for European and American youths of corresponding age weight and height
He also states Hypertension as a pathologic condition in Chinese is very unusual He goes on to suggest possible reasons for this rarity of hypertension
Tables

CADBURY W W Report of the Research Committee of the China Medical Missionary Assocation on the pulse and blood pressure in normal individuals
China M J 35 242 247 1921
A report of the results of an investigation into normal standards of Chinese blood pressure Total of 1 169 pulse records and 743 records of blood pressure
Age sex occupation race weight and height and pulse rate sitting are also recorded Author presents findings in tabular forms accompanied by brief comments

CAHILL G F Pheochromocytomas
J A M A CXXXIII 180 186 1948
Pheochromocytomas occur mostly in the adrenal but do occur in other pheochrome tissue The syndromes are due to excess epinephrine released into the blood They may give typical syndrome of paroxysmal hyper tension or may resemble essential hypertension They may occur at any age and the tumors may be multiple The steps in the diagnosis are illustrated and the diagnosis is often certain
Charts

CAIN E F Malignant hypertension histologic changes in kidneys
Arch Int Med 53 832 850 June 1934
Determination in 27 cases of malignant hypertension or diffuse arterial disease with hypertension group 4 aged 22 to 72 of size and weight of kidneys and of ratio of wall to lumen of renal arterioles in relation to histo logic renal changes Abbreviated case histories of all 27 patients are presented Findings
1 Diffuse changes involving glomeruli tubules arterioles arteries and interstitial tissue
2 Most prominent changes occurred in arterioles
3 Ratios of wall to lumen of renal arterioles markedly reduced
4 Kidneys not markedly or uniformly decreased in size
Tables and illustrations

CALDER R.M Nutritional deficiencies as cause of elevated pressure in rats (with special reference to vitamin B_2 complex)
J Exper Med 76 1 14 July 1942
Effects of dietary deficiencies on the blood pressure of rats were studied with special reference to vitamin B deficiencies Observations are made with regard to
1 Influence of a complete deficiency of the vitamin B complex and of the vitamin B_2 complex on the blood pressure
2 Influence of a partial deficiency of vitamin B_2 complex on blood pressure
3 Influence of general undernourishment and consequent secondary vitamin deficiency on blood pressure
Results showed that a deficiency of the entire vitamin B complex was followed by a slight fall in blood pressure Partial deficiency followed by significant and persistent rise in pressure and further experiments revealed that while deficiency of vitamin B_2 complex plays a dominant role in causing rise of blood pressure in rats other dietary factors as yet undefined are also involved
Tables and charts

CAMERON W.M WHITSELL L.J CRISMON J.M & TAINTER M L Further evidences on nature of vaso motor actions of ethyl nor suprarenin (suprarenal derivative)
J Pharmacol & Exper Therap 63 340 351 July 1938
Intravenous injection of ethylnorsuprarenin produces a sharp fall of blood pressure Repeated injections however result in a well marked arterial pressure rise in place of the depressor effect The paper attempts to describe this pressor change and discuss the mechanism of its production The experiments were conducted on cats
In conclusion the authors state According to these evidences ethylnorsuprarenin stimulates the entire sympathetic innervation in a manner similar qualitatively to epinephrine but differs quantitatively in the pre dominance of an action on the sympathetic vasodilators
Illustration

CANNADY E W Cerebral vascular disease hypertensive encephalopathy
Illinois M.J 70 521 526 Dec 1936
The renewed interest in the sudden occurrence of transient cerebral phenomena in hypertensive patients is noted with the suggestion that in the past this study has not received the attention that its frequency and im portance deserve
The symptoms are thoroughly discussed A group of 9 cases exhibiting the clinical features of this syn drome are stated (5 men 4 women ages 37 to 58 average age 49 family history of hypertension obtained in 6 cases Tabulation of clinical features) The syndrome described by the author is apparently not en entity that was unknown to the clinicians of the 19th century and a summary of various reports from Bright to Osler to Allbutt is reported
The diagnosis of hypertension encephalopathy occasionally presents some difficulty and frequently is made only after excluding all other possible lesions The only anatomical findings in 5 hearts examined were those usually accompanying severe hypertension
Measures to combat this disease are enumerated emphasizing the fact that since the attacks are due to a cerebral circulatory disturbance all therapy should be directed towards its correction The measures most successful in treating cerebral edema are venesection lumbar puncture and hypertonic fluids
Tables

CANNADY E W & O HARE J P A critical survey of the retinal les ons in chronic glomerular nephritis
J.A.M A 103 6 10 July 1934
32 cases of chronic glomerular nephritis have been followed over a period varying from 6 months to almost 14 years In 30 of the cases retinal changes developed before death 25 showed the p cture of an ad vanced state of arteriosclerotic retinopathy or hypertensive neuroretinopathy
An elevation of blood pressure preceded the appearance of ret nal arteriolar sclerosis in 13 of 17 cases Hypertension was present in every patient who had advanced retinopathy The blood pressure was low in the only 2 cases without vascular or other ret nal changes

CANNY A.J Unusual renal lesions associated with vascular hypertension
M.J.Australia 2 631 638 Dec 14 1940
6 cases with the following diseases are described (1) Senile nephrosclerosis (2) Polyarteritis Nodosa (3) Unilateral renal atrophy (4) Renal hypoplasia (5) Renal dwarfism
The object of this paper is to draw attent on to certain varieties of renal lesions which are at times unex tectedly found at autopsies upon individuals who have suffered from vascular hypertension There is perhaps an undue readiness to diagnose as chronic glomerulonephritis or essential hypertension many obscure disorders associated with an elevated systemic blood pressure without due regard to the diversity of factors to which such hypertension may be due

CANTER H.E Ambulatory treatment of hypertension with the rice d et
Pennsylvania M.J 51 1411 1413 No 12 Sept 1948
Report of results obtained when 65 consecutive and unselected patients who presented the syndrome of hypertension were placed on the rice d et regime All were suffering from hypertensive hea t disease and most had some kind of renal involvement and sclerosis of the ret nal vessels
The results are presented in tabular form All showed marked relief of subjective symptoms most showed improvement of objective signs When patients did not adhere to the d et blood pressure ro e immedi ately when they returned to dietary restrict on the blood pressure fell again The length of time they will have to stay on the rice d et to maintain a beneficial effect is hard to state

CARTER R L Blood pressure readings in 500 physical examinations
J M A Georgia 22 186 187 May 1933

This paper presents results obtained in routine examinations of 532 apparently normal individuals 254 males and 278 females from laboring and middle classes the majority under 30 years of age Results 28% (71) males and 22% (61) females had abnormal blood pressure readings

The author presents detailed statistics of the findings and comments briefly on treatment rest and relaxation diet and drugs

CASTLEMAN B & SMITHWICK R H Relation of vascular disease to hypertensive state based on study of renal biopsies from 100 hypertensive patients
J A M A 121 1256 1261 April 17 1943

The surgical treatment of hypertension by dorsolumbar sympathectomy gives an opportunity to examine the kidney through this operative field and to take a biopsy

The degree of the patients vascular diseases was divided into 5 grades

0	absent	7%
1	very slight	21%
2	mild	25%
3	severe in every vessel	33%
4	scarred glomeruli with atrophic surrounding tubules	14%

Biopsies showed that there was not enough evidence of renal vascular disease in more than half of the cases to be the sole factor in producing the hypertension and that in many of these and probably others the hypertensive state ante dated the renal vascular lesion which once established probably aggravated the hypertension

CATTELL McK & EDWARDS D J Epinephrin action in relation to the hydrostatic pressure effect on the contraction of cardiac muscle
Am J Physiol 96 657 661 1931

Observations were carried out to study the action on the heart muscle of epinephrin and hydrostatic pressure when employed simultaneously

The stimulating action of increased hydrostatic pressure on the tension developed by cardiac muscle is aufmented by the presence of epinephrin This augmentation is greater than the stimulation produced by epi nephrin alone indicating a synergistic action between these two agents

Through the combined action of pressure (1 200 to 1 600 pounds) and epinephrin (1 250 000) the average value for the tension developed was increased 70 9% in the case of the auricles and 121 4% in the case of the ventricles
Tables

CATTELL McK & EDWARDS D J The influence of hydrostatic pressure on the contraction of cardiac muscle in relation to temperature
Am J Physiol 93 97-104 1930

The variability of the degree of stimulation resulting from the action of pressure points to the desirability of studying in turn the various factors of the environment in relation to the pressure influence The present paper reports the results of the first environmental factor investigated temperature Experiments were carried out on the turtle Results

1 The tension developed during the contraction of the ventricular muscle of the turtle increases as the temperature is lowered

2 Moderate hydrostatic pressure (950 pounds per sq in) still exerts a large fraction of its usual stimulating action on the tension developed by the muscle after cooling to between 16 and 10 degrees C i e the stimulating action of cold and pressure are in large part summated

3 With higher pressures (1 300 to 1 500 pounds) the tension reached by the cold muscle is no greater than at room temperature

4 When the muscle is cooled to approximately 5 degrees C pressure no longer causes an increase in the tension developed during contraction

5 It is suggested that the similarity of the influence of high pressure and low temperature on the freedom of molecular motion may account for the observed results
Tables and Charts

CAVINESS V S Management of hypertension
North Carolina M J 6 477-480 Nov 1945

After citing the statistics of the State Board of Health N C relative to causes of death the author discusses the etiology of hypertension basing his discussion on the statement Blood pressure controls appear to be dependent upon a balance between a pressor substance adrenalin and a depressor substance probably sulfocyanate

He considers the treatment of hypertension as follows

1 General measures careful individual study of each patient before treatment begun diet is another factor to be considered also bed rest (within limits) and psychotherapy

2 Sedatives phenobarbital

3 Nitrites and nitrates lower systolic pressures temporarily but have little effect on diastolic pressures

4 Tissue extract has been used with success

5 Sulfocyanates The author gives detailed description of correct use of sulfocyanates

CHAKRAVARTI A Pressure variation and cardiovascular changes in diabetes mellitus
Indian M Gaz 60 348 350 July 1945

Observations on the blood pressure variation and cardiovascular changes in 50 diabetic subjects are reported 43 males 7 females - 43 over 40 years of age The majority has had the disease 5 years or more

The author found that hypertension and arteriosclerosis are of common occurrence in elderly diabetics Young patients usually manifest low pressures and with early and successful treatment they are likely to re gain their normal tension Cardiac abnormalities found to be infrequent in diabetes

Tables

CHAMBERS W.N Blood pressure studies in 100 cases of coronary occlusion with myocardial infarction
Am.J.M.Sc 213 40-45 Jan 1947

100 cases of coronary occlusion were studied with reference to the affect of the attack on the blood pressure and the influence of the resultant blood pressure on the incidence clinical course and prognosis

It is stated that the incidence of antecedent hypertension is greater in individuals having coronary occlusion than it is in the general population (75% in this series)

There is no relation between antecedent hypertension and mortality rate in coronary occlusion Hyper tension at the onset of the attack is a common finding A fall in blood pressure usually occurs following coronary occlusion *An early return of blood pressure to normal or pre-occlusional hypertensive levels is* a good prognostic sign The number of survivors who regain their original hypertension increases with time elapsed after occlusion After recovery from the initial coronary occlusion the height of the blood pressure has *no effect on the frequency of recurrence or ultimate prognosis*

Tables

CHANG H C CHIA K F HSU C.H & LIM R K.S Vagus post pituitary reflex pressor component
Chinese J Physiol 12 309 326 Nov 25 1937

Stimulation of the central vagus in dogs with the neck crushed and with only vascular connections between the head and the trunk gives rise to a pressor response in the trunk which may be prevented either by interrupting the stalk of the pituitary or by removing the pituitary gland

These results indicate that vagal stimulation induces a reflex secretion of the posterior pituitary principle which is responsible for the pressor response by direct action in the circulation and not through the stimulation or a sympathetic center in the hypothalamus

Evidence is also presented showing that aufmentation by cocaine or eserine does not necessarily indicate the presence of adrenergic or cholinergic activity respectively

Plates

CHANUTIN A & LUDEWIG S Experimental renal insufficiency produced by partial nephrectomy diets containing whole dried yeast
Arch Int.Med 64 756 766 Oct 1939

A study of the effect of feeding diets containing various percentages of dried yeast to intact rats and to partially nephrectomized rats Data showing the effects of these diets on renal hypertrophy renal function and blood pressure in intact rats are presented

The incidence of hypertension was greatest in the group ingesting the diet containing 60% yeast There was no marked renal insufficiency in any of these animals as judged by the urea ratios The concentration of blood urea were not markedly elevated at the lower urea ratios

Charts

CHAPMAN D G *Hypertension causes symptoms and principles of treatment*
Virginia M Monthly 60 477-481 Nov 1933

A review of various studies which have been done previously by other investigators to determine the aver age blood pressure in man

The author describes rather generally some of the causes symptoms and treatment of hypertension with a slight emphasis on social and psychological factors

CHAPPELL M.N Blood pressure changes in deception
Columbia Univ 39p 8° N Y 19 9

The study consisted of several investigations

1 A *preliminary investigation of the relation between* 3 methods of *obtaining blood pressure*
(a) Mechanical (b) Auscultatory (c) Palpitation

2 A deception experiment in which the subject was presented with a laboratory situation in which he might either lie or tell the truth Lateral blood pressure used as the criterion truth and deception were differentiated with 87% accuracy 59 subjects college undergraduates aged 16 to 25 years

3 Three control groups were set up to investigate questions brought up in the course of the deception experiment They concerned the blood pressure changes during an intelligence test blood pressure changes during mental work and blood pressure changes during unemotional deception

The observations are presented in tabular form together with comment The author presents his con clusions

Tables and *charts*

CHARLES J.R Suprarenal hypertrophy
Bristol Med Ch r.J 49 115 118 pl 1932

Report of a case of suprarenal hypertrophy The operation was performed with no evidence of a tumor The left suprarenal gland was removed hypertrophy weight of the tumor was 5 grams (normal 3 to 4) Thyroid was prescribed 5 grams per day intramuscular injections daily of 1 c c solution of anterior lobe of the pitui tary and also 1 cc ovarian extract The blood pressure *fell*

CHASIS H GOLDRING WM BREED E.S SCHREINER, G & BOLOMEY A Salt and protein restriction effects on blood pressure and renal hemodynamics in hypertensive patients
Jour Amer.Med Assoc Vol 142 p 711 √arch 11 1950
Twelve patients with varying extent and duration of essential hypertension were elected at random They were put on a rice diet which led to a decrease in the filtration rate renal blood flow and maximal tubular ex cretion capacity in the majority of them The changes in blood pressure observed in these patients did not ex ceed the random spontaneous variations to be anticipated from the controlled data on these patierts and from the variations in pressure observed in other patients kept in the hospital under similar conditions without re striction of diet
Tables Graphs

CHASIS H & REDISH J Function of separate kidneys in hypertensive subjects
Arch.Int.Med 70 738-748 Nov 1942
The report is concerned with the correlation of pyelography and renal function in the separate kidneys of 21 randomly selected hypertensive subjects In addition the effect on renal function of operative procedures designed to increase the renal blood flow was reported for a small group of hypertensive subjects
The impairment of renal parenchyma in hypertensive subjects proceeds in a parallel manner in both kid neys the pace varying in different persons Decrease in renal bloow flow shared equally by two kidneys
Absolute reduction in blood flow to one or both kidneys as measured by diodrast clearance does not necessarily demonstrate that renal ischemia is present
Many common variations in ureteropyelograms are believed to be without significance
The rate of re absorption of water by the tubules and hence the rate of urine flow may vary markedly in two kidneys of equal functional capacity
In 3 hypertensive subjects who had undergone surgical procedures for renal conditions significant dis parities in the blood flow to the two kidneys were observed In none of the 3 subjects did the arterial tension fall after surgical therapy
Tables Photographic illustrations

CHESLEY L C & ANNITTO J.E Pregnancy in patient with hypertensive disease
Am.J Obst & Gynec 53 372 381 March 1947
In the hospital there were a total of 218 patients in whom recorded blood pressures established the diag nosis of hypertensive toxemia
A detailed analysis has been made of the 301 pregnancies in which these patients were seen
The gross fetal loss in prior pregnancies 35% in first hypertensive pregnancy 38% in subsequent pregnan cies 40%
Of the 47 sisters of these hypertensive patients who delivered here 45% had at least one toxic pregnancy Nearly 40% of the hypertensive patients showed drops of blood pressure in midpregnancy
Proteinuria in some degree occurred in half the pregnancies renal function was normal in 93% and pre mature separation of the placenta occurred in 5 6%
Fetal loss increased with higher initial blood pressure second trimester rises in blood pressure higher pressures near delivery decreased renal function proteinuria and superimposed toxemia
There were 6 immediate maternal mortalities (2 0%) and 7 later puerperal deaths Thus the mortality was 20 times that of the whole hospital experience
Tables

CHESLEY L C ANNITTO J.E & JARVIS D G Interaction of pregnancy and hypertensive disease
Am.J Obst &Gynec 53 851 863 May 1947
Examination of records 1931 1944 of 218 patients and 301 pregnancies classified as hypertensive toxemia Every patient was traced to late 1945 or early 1946 Of the 218 patients 178 were re examined
The authors summarize the gross fetal loss and comment on the blood pressure during pregnancy occur ring of proteinuria renal function tests fetal and maternal mortality lobe puerperal deaths and toxemia
The outstanding conclusion is that repeated pregnancies are not demonstrably harmful to the hypertensive woman The pregnancy itself is hazardous should toxemia occur Such superimposition of toxemia also does harm some individual patients
Tables

CHESLEY L C & E.R Cold pressor test in pregnancy
Surg Gynec & Obst 69 436 440 Oct 1939
In this investigation cold tests have been given in the third or early fourth month again in the eigth or early ninth month and again six weeks or more postpartum in 517 women The response to the cold test is in consistent While many patients do give reproducible rises in blood pressure others have given highly variable responses at diff rent times
Tables

CHILD C G Pathologic changes following experimental hypertension produced by constriction of renal artery
J.Exper.Med 67 521 528 April 1938
Clinical and pathological findings of 6 dogs dying within a few days following bilateral constriction of the renal arteries No explanation was found for the rise of blood pressure The clinical histories and pathological findings of L animals with a sustained hypertension have been considered together with the detailed account of one of these in which a marked degree of arterial disease was found The induced arterial disease might ac count for its maintenance

CHING R.E Hypertensive disease basic factors and management
J Tennessee M.A 31 87 92 March 1938
Fundamental clinical and pathological processes in essential hypertension malignant hypertension and nephritis are outlined as background knowledge necessary for the differential diagnosis of these diseases
The most important prognostic signs are then indicated especially the danger signals likely to occur Finally treatment is discussed The treatment of hypertension is a regimen not a drug The author evaluates the various therapeutic measures and points out those which have proved most effective in his experience

CHOPRA R.N G.S & I C Normal blood pressure in Indians
Indian M Gaz 77 2 22 Jan 1942
Examination of 10 000 healthy Indians of all ages sexes and castes The following conclusions are drawn
1 Average systolic pressure in Indians is lower than that in Europeans
2 Average diastolic pressure in Indians is also lower than that of Europeans
3 Among various communities in India it was found that the people of the North have higher systolic and diastolic pressures than the people of the East The author suggests bracing climate better diet and higher standard of living in the North as possible reason for this difference
4 People on a mixed diet have a slightly higher blood pressure than those on purely vegetarian diet

CICARDO V.H The mechanism of arterial hypertension after potassium injections into the nerve centers
Arch internat pharm dyn Gand 80 199 208 No 2 3 Aug 1 1949
In the elevation of blood pressure which follows cisternal injection of potassium (in dogs) the sympathetics the adrenals and the hypophysis are all involved Destruction of the spinal cord and vagi or blockage of the sympatho adrenal centers inhibits the pressure elevation Potassium i a more fficient hypertensive stimulus than electric current

CLARK G.A The development of blood pressure reflexes
J Physiol Lond 83 229 35 1934 1935
The functional activity of vasomotor reflexes does not appear to be developed in the cat or dog until after birth and changes in the foetal blood pressure occur with each interim contraction It is suggested that at the height of a contraction some degree of obstruction is produced in the placental sirculation
Stimulation of the peripheral end of the vagus in the foetus within 10 days of full term slows the heart and lowers blood pressure
Cardio aortic and carotid sinus reflexes appear to be developed in puppies 4 to 6 days after birth and in kittens about the 11th day
Pressor reflexes are developed earlier and have been seen 3 to 4 days after birth in both cats and dogs Graphs

CLARK G A Adrenalin action on blood pressure
J Roy.Nav.M.Serv 18 53 55 Jan 1932
That the sudden injection of a relatively large amount of adrenalin may be definitely dangerous is illust rated in charts presented by the author to show the effects on blood pressure cardiac output and pressure in the inferior vena cava of animal weighing 5½ pounds of different amounts of adrenalin given intravenously The corresponding doses of adrenalin which might be expected to produce similar results in man taking the average weight as 140 lbs would be about 0 6 mgm 0 3 mgm and 0 075 respectively

CLARK H C Hypertension in early childhood
Am.J.Dis Child 59 353 361 Feb 1940
Case history and autopsy of a 13 years old girl The case was diagnosed as malignant hypertension due to general or extensive organic constriction of the arterioles The rapid and progressive course of events covering approximately 18 months with extremely rapid spurt in the last 2 months associated with rapidly failing vision and absence of uremia points strongly to malignant hypertension The post mortem data especially the marked thickening even to obliteration of the arterioles most marked in the renal and coronary arteries indicate hypertension

CLARK J.H HOOKER D.R & WEED L.H Hydrostatic factor in measurements of venou pressure
Am.J Physiol 109 166 167 July 1934
A study of the venous pressure in dogs in the horizontal and two vertical (head up head down) positions Direct measurements of venous pressure in dogs in above positions have shown that the heart is not the point from which the hydrostatic factor in venous pressure is measured In the dead animal the venous system acts as an unbroken column from head to tail and the reference point from which hydrostatic pressure is measured was found to be 82 mm caudal to the heart in the vertical position in an animal of approximately 500 mm spinal length In the living animal the venous system is broken at the heart giving two columns with a reference point approximately 121 mm from the heart in the tail section and another reference point 38 mm from the heart in the head section
Tables Diagrams

CLAUSS O Blood pressure measurement as psychic trauma
Munchen med Wchnschr lxx 741 1923
Too many doctors use the words blood pressure too liberally with their patients It has the effect that the patients become only blood pressure conscious and worry about it Many times it has been found that the blood pressure increased because the patient was worried and nervous about a possible increase The physician should explain to his patients that a higher blood pressure in itself does not mean much but is only part of a complete examination

CLAWSON B.J Incidence of types of heart disease among 30 265 autopsies with special reference to age and sex
Am.Heart Jour XXII 607 1941

A report of the incidence of the types of cardiac disease encountered among the autopsies which have been performed at the University of Minnesota Medical School during 1910 to 1938 inclusive consisting of 30 265 (19 685 males 10 580 females) cases which were analyzed with respect to causes and incidence of types and to age and sex incidence

The were two main groups

1 Infectious heart disease comprising those classed as (a) rheumatic (b) bacterial (c) syphillitic (d) toxic myocardium

2 Non infectious cardiac diseases composed of (a) hypertensive heart disease (b) coronary sclerosis without hypertension (c) pulmonary hypertensive heart disease and (d) miscellaneous forms

A classification of heart disease based on etiology and autopsy observations is presented

Tables

COGSWELL R C HENDERSON C.R & BERRYMAN G H Effects of training on pulse rate blood pressure and endurance in humans using step test (Harvard treadmill and electrodynamic brake bicycle ergo meter
Am.J Physiol 146 422-430 June 1946

In the course on conducting repeated tests for physical efficiency during a 12 week period upon 7 young men aged 23 to 28 years who had volunteered for nutritional investigation the following observations were made In submaximal exercise post-exercise pulse rates showed a decrease with training whereas maximal tests failed to produce similar response Diastolic pressure immediately following each step test run dropped significantly but reached approximately the resting level by 3 minutes post exercise Systolic blood pressure resting and post-exercise tended to decrease with training onthe step test

Tables

COHEN M Lesions of fundus in essential hypertension and in arterial and renal diseases
Arch Ophth 17 994-1007 June 1937

A correlation of the clinical symptoms of the following diseases with various lesions of the fundus is presented

(1) Essential hypertension (benign or malignant)
(2) Generalized arteriosclerosis
(3) Diabetes
(4) Nephritis

A brief clinical report of cases from various hospitals is then presented together with the author s con clusions

Photographic illustrations

COHN A.E SCHROEDER H A & STEELE J.M Essential hypertension and diseases of the kidneys
Tr.A.Am Physicians 54 82 86 1939

The genito urinary tracts of 250 cases of essential hypertension have been studied In 112 cases there is evidence either that organic renal diseases of various kinds preceded the onset of arterial hypertension or at least that they were present when the existence of hypertension was demonstrated

From this observation the authors conclude that diseases or lesions of the kidney play a role in elevating the blood pressure

COLLINS D.A Hypertension from constriction of arteries of denervated kidneys
Am.J Physiol 116 616 621 Aug 1936

The study was instituted to investigate the question of whether the hypertension which results from limitation of circulation of the kidneys by constriction of the renal vessels depends upon the nervous connections of the kidney Essentially the experiments consisted in following the arterial blood pressure of male dogs in which both renal arteries were constricted and both kidneys denervated Renal function and weight were checked Results

1 The arterial hypertension which results from constriction of the renal arteries is not dependent on the nervous connections of the kidney for its production

2 Renal function as indicated by the non protein nitrogen and the phenol sulphonephthalein renal function test is not significantly altered by bilateral renal artery constriction of the degree employed in these experi ments nor are there any histological changes observable in the kidneys

Tables

CONNELL W F Hypertension and its management
Canad.M A.J 54 348 352 April 1946

1 First step in management is discovering possible etiology Only after physical examination history x-rays and laboratory tests have proved negative should diagnosis of essential hypertension be made

2 The etiologic concept that hypertension is initiated by neurogenic mechanisms and maintained by humor al mechanisms is discussed with reference to Page s classification of the processes leading up to established hypertension

3 Explanation of prognosis must take into account such factors as age condition of the heart condition of the eye ground urinary tract

4 Since the etiology is unknown rational management demands treatment of each case individually Complications must be handled on their own merit and as they arise

5 Reassurance of the patient with high blood pressure neurosis use of potassium thyocyanate and contra indications for its prescription surgical treatment of Smithwick and others renal depressor extracts amines anti renin factors etc dieting and psychotherapy are discussed and evaluated

CONTRATTO A W & ROGERS M.B The use of the rice diet in the treatment of hypertension in nonhospitalized patients
New England Jour.Med 239 531 536 1948

This report covers the first 6 months of a study of a group of ambulatory or non hospitalized patients with hypertension who were treated with the rice diet *67 patients originally started on the rice diet* 55 of whom had essential hypertension Details for the rice diet and its administration are given

It was found that the rice diet was a practical inexpensive and simple method for reducing blood pressure The method through which the reduction of blood pressure is achieved is not known but the authors feel that a significant part is played by the sodium ion
Tables and Charts

COOK G T & PEARSON R.S.B Hyperpiesis with atheromatous obstruction of renal arteries
J.Path & Bact 58 564 567 July 1946

The paper presents a case of high blood pressure occurring in a young man with advanced atheroma of the main renal arteries at their site of origin from the aorta In addition there was well marked vascular hypoplasia *with other developmental anomalies* The remarkably *slight histological* evidence of renal damage resembles the findings in experimental animals after partial obstruction of the renal blood flow
Plates

COPLAND S.M Inaugural symptoms in hypertension
New Orleans M & S.J 85 668 672 March 1933

Incidence of specific inaugural symptoms in 100 cases of essential hypertension
Headache (31) Vertigo (27) Precordialgia (14) Dyspnea (12) Edema (4) Hot Flushes (4) *Eye Symptoms* (2) Epistaxis (2) Insomnia (1) Dyspepsia (1) Joint Pains (1)

The author found that the inaugural symptoms in Negroes and Whites are the same

CORBUS B C & CORBUS B C JR *Goldblatt hypertension clinico pathologic interpretation*
Illinois M.J 81 405-408 May 1942

A summary of the urologic conditions which frequently occur together with elevated arterial tension The following are the urologic conditions

I Upper urinary tract
  A Perirenal (1) chronic perinephritis
  B Intrarenal (1) tumors (2) pyelonephritis (most often encountered) (3) polycystic disease
  C Extrarenal (1) Occlusion of renal artery (a) arteriosclerosis (b) embolism
    (2) Thrombosis of renal vein (a) vascular (b) neoplastic (c) orthostatic

CORCORAN A C Renal aspects of late toxemias of pregnancy (relation to hypertension)
West.J.Surg 50 622 630 Dec.1942

It is the author s purpose to discuss the vascular toxemias of pregnancy (which are divided into two groups) in the light of new evidence concerning their nature

The majority of patients evidencing increased arterial pressure during pregnancy belong to the group of *essential* hypertension Therefore the author discusses the present status of knowledge concerning it This is divided into sections on (1) Experimental Hypertension (2) Renal Pressor System (3) Physiology of Pressor System (4) Diodrast and Inulin Clearances (5) Eclamptogenic Toxemia

There is nearly complete agreement that eclamptogenic toxemia is a disease sui generis arising by reason of pregnancy with clinical characteristics of its own It seems unlikely that eclamptogenic toxemia is in fact due to the coincidence of renal ischemia and pregnancy

Eclamptogenic toxemia whether eclamptic or pre eclamptic is characterized by decreased rather than an increased extraction of water from the blood in the glomerulus i e decreased filtration fraction *In most* cases renal blood flow remains within normal limits

The author points out that much more remains to be learned concerning the inter relationship of hypertension eclamptogenic toxemia and pregnancy The similarities and differences between essential hypertension in human beings and experimental renal hypertension demand further study notably in view *of the* tendency of the pregnant hypertension human to get worse and that of the renal hypertensive pregnant animal to get better

The pressor state commonly present in eclampsia may not be an integral part of the condition but like diminished filtration an associated renal manifestation Certain observations now in progress tend to point out the *renal origin of this process It is not apparent that neutralization of this response* as by angiotonin inhibitor would be therapeutic It is even possible that reduction of filtration pressure would cause further decrease in the rate of glomerular filtration and result in anuria
Diagrams and Charts

CORCORAN A C BROWNING J S & PAGE L.H Renal hemodynamics in orthostatic hypotension effects of angiotonin and head up bed
J.A.M A 119 794-794 July 4 1942

The purpose of the report is to describe observations on the effects of postural changes and angiotonin injections on arterial pressure pulse rate and renal hemodynamics in a pat ent who suffered from orthostatic hypotension and who was effectively treated by the head up bed described by MacLean and Allen

The authors present the following summary of their findings Effective renal blood flow and arterial pressure decrease during the syncope of orthostatic hypotension Inject ons of angiotonin at this time increases renal blood flow and blood pressure and relieves syncope After treatment with the head up bed assumption of the erect posture results in only transient decrease of blood pressure and increased renal blood flow with restoration of the fall in renal blood flow which normally accompanies the pressor effect of angiotonin

CORCORAN A C KOHLSTAEDT K G & PAGE I.H Changes of arterial pressure and renal hemodynamics by injection of angiotonin in human beings
Proc.Soc.Exper.Biol & Med 46 244 248 Feb 1941

This report is concerned with observations of blood pressure and renal hemodynamics during single injections and intravenous infusions of angiotonin into human beings

The effects of intravenous injections and infusions of angiotonin in human beings closely resemble the effects of this substance in experimental animals The increase of filtration fraction which occurs during angiotonin infusion is evidence of increased intraglomerular pressure and since it is associated with decreased renal blood flow is the characteristic result of constriction of the glomerular efferent arterioles Efferent arteriolar constriction with absolutely or relatively decreased renal blood flow characterizes the kidney in hypertension in human beings Since the blood of patients suffering from hypertension contains an excess of a vaso-constrictor which like angiotonin is potentiated in the presence of the blood of nephrectomized animals it is not unlikely that the increased arterial pressure and altered renal hemodynamics of hypertension may be the result of the unopposed action of angiotonin

CORCORAN A C & PAGE I.H Menopausal hypertension critical study
Am.J.M.Sc 213 475 476 April 1947

A study of 179 castrated women and 21 with the natural menopause demonstrated that arterial hypertension is no more common in them than in the general population From the data it is concluded that the relationship of the menopause and hypertension is incidental and loss of ovarian reaction is neither a primary nor a contributary cause of arterial hypertension

CORCORAN A C & PAGE I.H Differential diagnosis of terminal glomerulonephritis and malignant hypertension renal aspects
Ann.Int Med 21 747 764 Nov 1944

Purpose of the study to point out criteria for diagnosis of lomerulonephritis and malignant hypertension derived from studies of renal function

Two groups of 10 patients each were selected for the study one group had evidence of chronic glomerulonephritis the other of malignant hypertension Neither group had progressed to uremia although this final stage was imminent

Differentiating studies were based on excretions of diodrast and inulin or urea and urinary protein on the concentrating power of the kidneys the urinary sediment arterial pressure hematocrit index and serum protein content

Distinguishing observations are presented and discussed
Tables

CORCORAN A C & PAGE I.H Renal blood flow in experimental renal hypertension
Am.J Physiol 135 361 371 Jan.1942

The paper reports results obtained from determinations of renal clearances tubular excretory capacities and total renal blood flows in dogs in which renal hypertension was purposely excited with the least possible interference with renal circulation Conclusions

1 Hypertension due to renal arterial compression or to compression of the renal parenchyma in perinephric scar may occur without constant or persistent changes in the renal clearances of diodrast phenol red inulin or urea and without significant abnormalities in the absence of ischemia of excretory renal tissue

2 Measurements of total renal blood flow from the clearances and extraction percentages of phenol red and inulin indicate no correlation of mean arterial pressure with the rate of renal blood flow and establish the persistence of hypertension in the absence of renal ischemia Evidence of renal vasoconstriction predominantly of the efferent arterioles was obtained from the levels of inulin extraction and renal blood flow in some dogs during phases of more severe hypertension and in association with secondary renal ischemia In one dog in which hypertension was the result of perinephritis intraglomerular filtration pressure was increased in the absence of changes in effective renal blood flow Ischemia due primarily to compression or occlusion of the renal artery was usually associated with decreased renal extraction of inulin due apparently to decreased filtration pressure

3 The persistence of experimental renal hypertension in absence of renal ischemia is consistent with the view that intra renal reduction of pulse pressure rather than ischemia may be effective cause of experimental renal hypertension
Tables Charts

CORCORAN A C & PAGE I.H Sympathectomy in hypertension and renal blood flow
Arch.Surg 42 1072-1082 June 1941

Observations of preoperative and postoperative renal blood flow and filtration fractions in two cases of essential hypertension treated by extensive sympathectomy are reported The operation did not increase renal blood flow or decrease the degree of efferent arteriolar constriction in either case These observations are in accord with experimental data obtained from chronic experiments in animals and with other observations on the effect of renal denervation and sympathectomy in man It is concluded that the benefits of sympathectomy in hypertension do not depend on improvement of renal circulation resulting from interruption of renal nerves The suggestion is made that the decrease of arterial pressure which follows sympathectomy in man is an expression of denervation of the reactive visceral splanchnic innervation with resultant partial failure of venous return most evident in the erect position The decrease of venous return limits cardiac output and thus tends to decrease arterial pressure The decrease of arterial pressure is in itself an adequate explanation of the clinical improvement which may follow sympathectomy as it may prevent the further spread of arteriolar lesions

The probable relation of the renal venopressor system to hypertension is reviewed and it is noted that renal vasoconstriction in hypertension is probably humoral rather than neurogenic in origin The view is proposed that decreased arterial pressure following sympathectomy may arrest the progress of renal arteriosclerosis in the hypertensive and that since these arteriolar lesions may contribute to the release of renin and the activity of the renal vasopressor system sympathectomy may thus iterrupt for a time the progress of the disease

CORCORAN A C TAYLOR R.D & PAGE I.H Functional patterns in renal disease
Ann.Int Med 28 560 582 March 1948

From observations in a wide variety of disorders which affect renal function the authors summarize determinations of renal blood flow glomerular filtration rate and tubular secretory capacity The summaries consist in patterns of altered function which are shown to correspond with clinical physiological and pathological estimates of the underlying renal changes functional and structural

The largest series of observations was made in patients suffering from hypertensive vascular diseases and is dealt with as follows (a) classification (b) extra renal findings (c) renal function

Data concerning other diseases associated with arterial hypertension are considered attention being directed to the patterns in Cushing s syndrome chronic pyelonephritis diffuse glomerulo nephritis and toxic nephroses

Finally the authors contrast observations in orthostatic hypotension in which there is little renal vaso dilation with those of hypotension due to arsenical intoxication in which there is a severe renal vasodilation Tables

CORI C F CORI G T & BUCHWALD K W Changes in blood sugar lactic acid and blood pressure during continuous intravenous injection of epinephrine
Am.J Physiol 93 273 283 May 1930

Observations have been made as to the changes produced in blood sugar and lactic acid of normal rabbits during continuous intravenous injection of epinephrine at rates ranging from 0 00005 to 0 001 mgm per kilo per minute Minimal effective rate of injection of 0 00005 to 0 0001 mgm per kilo per minute produces an increase not only in blood sugar but also in blood lactic acid Increase in blood lactic acid after epinephrine injections is regarded as physiologically significant

As soon as the injection is discontinued both blood sugar and lactic acid begin to fall showing that epinephrine is destroyed rapidly and that the after effect is that of short duration

The similarity between the sugar and lactic acid curves in blood observed after subcutaneous and after continuous intravenous injection of epinephrine is emphasized

Smallest rate of injection of epinephrine which causes a perceptible rise in the blood pressure of un narcotized rabbits is close to o 0008 mgm per kilo per minute
Charts Tables

CORNELL E L Blood pressure readings in 1 000 pregnant women
Am.J Obst & Gynec 18 42-47 July 1929

The blood pressure readings in 1 000 consecutive pregnant cases have been studied The patients have been divided into three groups

A Those with systolic pressure below 129
B Those between 130 and 139
C Those above 140

In group A the blood pressure throughout pregnancy is lower than in normal nonpregnant women There is practically no change in the average readings from one month to another the minimum being 108 744 and the maximum 113 148

In group B appear the potentially toxic cases These patients demand more attention than is usually given them since a certain percentage will prove to be toxic

In group C are seen the toxic patients In the series studied there was no case of eclampsia
Tables

CORNWALL E.E Dietetic treatment of conditions signalized by arterial hypertension
M Times & Long Island M.J 64 137 May 1936

The author discusses briefly what he believes to be clear indication for dietetic treatment in arterial hypertension

1 Actual or potential renal insufficiency
2 Abnormal susceptibility of the cardiovascular system to disturbing factors
3 Actual or potential subnutrition of the tissue due to circulatory depression
4 Actual or potential heart failure
5 Actual or potential special sensitizations invited by the condition of metabolic strain inherent in abnormal circulatory conditions

The author advocates the general therapeutic principle of what he terms the easy diet He writes that the treatment of this condition by dietetic regulation in accordance with the principle of easy diet and with proper restriction of muscular and mental activity is the essential treatment and that the treatment with drugs except in emergencies has no place and that the treatment with mechanical procedures has a *small* sphere of usefulness

COX A J JR & DOCK W Capacity of renal vascular bed
J Exper Med 74 167 175 Sept 1941

By using kerosene and avoiding postmortem rigor one can obtain perfusion rates in kidneys nearly five times faster than those reported by observers who perfused kidneys immediately post mortem with saline solution only half as viscous as kerosene

Most kidneys from patients with hypertension without uremia have vascular beds in the normal range but a few show great decreases in capacity for blood flow This evidence is interpreted as another indication that renal arteriosclerosis is often a result rarely a cause of hypertension Significant occlusion of large renal arteries is rare Uremia due to amyloid may occur with no significant decrease in renal vascular bed but the uremia of renal sclerosis glomerulo or pyelonephritis is associated with reduction of vascular bed to very low levels

Tables

CRABTREE E G & CHASET N Vascular nephritis and hypertension combined clinical and clinico pathologic study of 150 nephrectomized patients
J A M A 115 1842 1846 Nov 30 1940

A study of approximately 150 consecutive nephrectomies The cases were representative of severe uni lateral renal damage

Hypertension was not a common finding Vascular changes were present in a high percentage Elevation of blood pressure readings was not the rule Evidence is not produced in this study to encourage employment of nephrectomy in hypertensive cases except for recognized surgical indications

CRAIG J D Sedimentation rate and blood pressure as criteria of value of ultra violet radiation in tubercul osis of childhood
Arch Dis Childhood 4 48 54 Feb 1929

A series of sedimentation rates has a definite place and value in forming an opinion as to the progress and prognosis of tuberculosis in children It is considered that a series of sedimentation rates may be of great value in controlling the dosage and the duration of treatment by ultra violet radiation

The blood pressure readings were taken at rest between exposure to ultraviolet radiation and at ap proximately the same time after a meal

In many cases the sedimentation rate showed marked improvement and the blood pressure rose in a correspondingly definite fashion The tendency in cases showing improvement was for the blood pressure to rise The variations shown in the blood pressure readings were more marked in those cases receiving radiation than in the control cases

CRAIG W M Evaluation of treatment of hypertension
J Am M Ass 139 1239 1247 No 18 April 30 1949

Essential hypertension of obscure causation should be looked upon as a progressive serious disease re quiring careful observation and treatment Treatment should be instituted in the early stages should be classi fied as expectant physiologic and palliative

Expectant treatment consists of determining whether the patient is a hyperreactor and has early hyper tension awareness of harmful effects of nicotine and emotional stress and education in proper methods of living

The physiologic treatment comprises both medical and surgical measures and is indicated in early stages of the disease before irreversible changes have taken place in the vascular and organic tissues of the body This type of therapy is instituted to arrest the progress of the disease Medical treatment consists of diets and treatment with drugs Surgical treatment consists of operations on the sympathetic nervous system to relieve vasomotor spasm of the vessels of the splanchnic region abdomen and lower extremities

Palliative measures are primarily of surgical nature Its objective is to relieve the incapacitating symptoms of the later stage of the disease without arresting the progress of the condition or of lowering the blood pressure

The author points out that his observations at the Mayo Clinic suggest that less radical operations might be followed by more permanent results if instituted earlier in the course of the disease

He calls for a more rational basis for evaluating certain results the assigning of the hypertension of a patient to the correct individual group preoperatively rather than classification of the condition of the patients post operatively This in addition to the prognoses associated with the several groups of hypertension would form a background for evaluation

Tables

CRAIG W M Essential hypertension and its treatment by operations on sympathetic nervous system (splanchnic resection lumbar ganglionectomy and suprarenal resection)
Ohio St M J 33 1003 1006 Sept 1937

The author divides essential hypertension into four groups

1 Cases with slight increase in blood pressure becoming normal as result of rest

2 Cases with moderate to severe hypertension moderate sclerosis of retinal arteries occasionally venous thrombosis and arteriosclerotic retinitis

3 Cases with moderate to severe hypertension and definite angiospastic retinitis

4 Cases with very severe hypertension with angiospastic retinitis and edema of the optic discs

Most patients in group 1 do not require surgical treatment Surgical treatment is advisable in groups 2 and 3 if hypertension is known to be progressive if function of heart and kidneys is good and if the value for the blood pressure becomes normal or approximately normal as a result of sleep or rest or following the intravenous injection of pentothal sodium or following the administration of sodium amytal or the nitrites Hypertension group 4 does not respond satisfactorily to surgical treatment

The author suggests that though several years may be necessary to evaluate the results of surgical treat ment of hypertension extensive subdiaphragmatic sympathectomy has been of value in relieving patients of severe clinical symptoms and in sustaining lowered blood pressure

Operative measures are most effective in young patients and those in early stages of the disease where vasospastic phenomena are readily demonstrable and before irreparable damage has been done to the ca d

CRAMPTON C W Exercise in the treatment of hypertension
N York M J (etc) cxviii 31 35 1923

The author defines hypertension and considers etiology treatment and d agnosis briefly The various forms of exercise have different purposes and results The dangers of exercise as t ea ment of hypertension are discussed and the forms of exercise of value are classified as follows 1 Bed exercises 2 Breathing exercises 3 Anticonstipation exercises 4 Contraptosis exercises 5 Recreative exercises

The most prominent local immediate mechanical effect accompanying contraction is vasodilation The local effect of exercise creates therefore a large set of chambers for the blood to occupy The additional amount of room provided for the blood can be very great Thus muscular exercise can be used to produce a marked lowering of blood pressure Whether or not blood pressure rises or falls as a result of exercise depends upon whether the local vasodilatation effect on the muscles overshadows the blood pressure rais g action of the heart and splanchnics

The above classificatory categories of exercise are dealth with in detail

CRANCH A G Hypertension with relation to capacity for work
Ohio State M J 31 676 678 Sept 1935

The author presents the following concise summary of his article Hypertension is probably more common in industry than is generally supposed Care must be taken to avoid error in detection of cases Hypertension itself is only a symptom and associated conditions must receive the greatest consideration From the point of view of capacity for work myocardial and arteriosclerotic changes are most important Standards based primarily on blood pressure determinations are not satisfactory Successful placement of hypertension cases is only possible through continuing supervision

CRANE J J ALESEN L A & TOURIEL E L Tumor of suprarenal medulla associated with paroxysmal hypertension case preoperatively diagnosed and cured by surgical removal
J Urol 46 1100 1102 Dec 1941

Report of a case of a 52 year old man suffering with paroxysmal hypertension for nine years was cured by the surgical removal of a pheochromocytoma of the right suprarenal gland through a lumbo posterior i cision after the tumor in the right suprarenal gland and the abnormal left suprarenal gland were palpated through a midline abdominal incision

CRILE G W Critical review of 822 operations on adrenal sympathetic system with special reference to essential hypertension
Illinois M J 70 115 119 Aug 1936

The author s thesis is an attempt to suggest a background for the genesis of hypertension Major premise is that hypertension is an example of pathologic physiology of the adrenal medulla sympathetic complex suggestion is made that essential hypertension is an example of a universal Raynaud s disease

Analogies to the pathologic physiology of hypertension and exophthalmic goiter of hyperthyroidism and neurocirculatory asthenia are made

A study of the comparative anatomy of the energy controlling system in man and animals is presented

In cases of early hypertension especially in young subjects it was found that blood pressure falls to normal level or becomes stabilized at a level lower than the preoperative level

In cases in which the hypertension has been associated with other diseases due to a pathologic physiology of the adrenal sympathetic system good results are secured The hypertension disappears together with the disease with which it is associated

CRILE G Denervations of the adrenal glands
Tr South Surg Ass 46 188 195 1934 also Wisconsin M J 33 87 93 1934

Operations have been performed on 67 cases of uncomplicated neurocirculatory asthenia with improvement or cure in 93% on 36 cases of peptic ulcer with improvement or cure in 93% on 71 cases of hyperthyroidism with cure in 95 6%

The series of cases of diabetes is still too small for final conclusion regarding the efficacy of denervation In general it may be said that in the small group reported diabetes has been cured by denervation and thyroidectomy The results of denervation in the treatment of hypertension are negative except in case of early hypertension especially when it is associated with hyperthyroidism

In the presence of psychoses neurasthenia or any condition in which the seat of disturbance is in the brain adrenal denervation is contraindicated

CRILE G Indications for an end results of denervation of the adrenal glands
Bull Chicago M Soc 36 127 1933

The assumption is made that since all the symptoms of hyperthyroidism are expressed by the brain adrenal sympathetic system spinal anesthesia to the extent that it cuts off communication between the driv g brain and the driven adrenal sympathetic system would suspend the symptoms of hyperthyroid sm and that the symptoms would return when the effect of anesthetic d sappeared and this has been shown to be a f ct There fore logically denervation of the adrenal glands would tend to induce the return of the hyperplastic thyroid gland to the normal state and the disease includ ng the increased basal rate would be abated or cured

Among experiments performed were 70 operations on adrenal glands in cases of neurocirculatory asthenia with improvement or cure in all but 9 of these This operation is specific for uncomplicated neurocirculatory asthenia Of 49 adrenal gland operat ons in hyperthyroidism 37 (80 4%) show improvement n or disappearance of the symptoms which were present prior to the operation Denervation of 27 cases of pept c ulcer In every instance the symptoms have been abated or have completely d sappeared

CRILE G.JR & McCULLAGH E P Simulating hyperthyroidism
M Clin.North America 24 395 409 March 1940

A number of studies are presented in order to demonstrate that uncomplicated hypertension can closely simulate hyperthyroidism and to outline certain diagnostic measures which are of value in ruling out the presence of hyperthyroidism

Uncomplicated severe hypertension can produce a syndrome characterized by a persistent tachycardia and an elevation of the basal metabolic rate accompanied by symptoms and signs suggestive of hyperthyroidism

A case of hypermetabolism independent of thyroid overactivity and associated with severe hypertension is reported

The importance of ruling out hyperthyroidism and avoiding a futile subtotal thyroidectomy in certain cases of severe essential hypertension is emphasized

Certain clinical and laboratory criteria especially the appearance and behavior of the patient and the determination of the blood I_2 and blood cholesterol levels are of value in ruling out hyperthyroidism

The cause of the elevation of the basal metabolic rate in patients with hypertension is discussed and it is suggested that this elevation may in part be the result of the increased cardiovascular activity involved in maintaining the circulation against the high diastolic blood pressure The possibility of pituitary hyperactivity as a factor should be considered

Tables

CROCI C Cold pressor test during menstruation possibility of use in determining ovulation
Monatschr.f Geburtsh u Gynak 110 334 342 1940 abstr.Atti Soc ital di ostet e ginec 36 148 149 March April 1940

The author investigated the cold pressor test during the menstrual cycle in 18 cases He observed in 14 cases a diminishing power of the blood vessels reactivation during ovulation

CROFTON F Medical management of high blood pressure
Bull Vancouver M A 24 180 183 Feb 1948

The author discusses the following therapeutic measures (1) Salt-restriction (2) Nitrites and Nitrates (3) Renal extracts (4) Vitamin K (5) Vitamin A (6) Potassium thycyanate (7) Drugs and other compounds

Bibliography

CROXATTO H & R Pepsitensin hypertensinlike substance produced by peptic digestion of proteins
Science 95 101 102 Jan 23 1942

A substance cimilar to hypertensin as to physiological physical and chemical properties can be derived from hypertensinogen by incubation with pepsin This substance is probably a polypeptid with a phenolic function and it is very likely that this applies also to hypertensin The term pepsitensin seems appropriate for the new substance

Diagram

CULPEPPER W L MADDEN E.E OLSON E C & HUTTON J.H Treatment of essential hypertension and diabetes mellitus by irradiation of pituitary and adrenal regions
Endocrinology 22 236 242 Feb 1938

Because of the well known effect of the X-Ray on glandular function the authors believed that this agent could be used to relieve either or both hypertension and diabetes mellitus (assuming that these two are based on functional abnormality of the pituitary adrenals or both)

In practice effectiveness is shown in a very small percentage of diabetics Improvement is seen in a much larger percentage of patients having both hypertension and diabetes In cases of hypertension symptomatic relief is secured in more than 75% of the cases This may occur with or without a marked fall in blood pressure The hypertension is satisfactorily reduced in about 70% of the cases that are adequately treated and can be followed until the results of treatment are ascertained About 20% of these improved cases later relapse The blood pressure returns to its original levels and is so far uninfluenced by this form of therapy In roughly 25% of the cases there is no response either symptomatically or in blood pressure readings In not more than 1% has headached been aggravated No signs of pituitary adrenal or other damage is noted

Tables

CURRENS J.H Dietary treatment of hypertension
J.Am.Diet Ass 25 315 317 No 4 April 1949

Diets low in sodium chloride have been advocated in the treatment of hypertension for the past 45 years The effect of such diets has never been convincing although renewed interest has developed in the past 5 years The rice and fruit diet as advocated by Kempner is a rigid diet and difficult for the majority of patients with hypertension to follow About 25% of a group of patients observed were able to follow the strict program Occasional patients have been observed in which the rice and fruit diet has resulted in a rather dramatic fall of blood pressure to normal or near normal levels In the majority however the blood pressure decreased little if any

CURRENS J.H Comparison of blood pressure in lying and standing positions study of 500 men and 500 women
Am.Heart J 35 646 654 April 1948

Observations were made on 500 healthy men and 500 healthy women between the ages of 21 and 55 years with respect to the change in blood pressure in the lying and standing positions The incidence of both diastolic and systolic hypertension lying and standing was found to be 3 4%

The presence of diastolic hypertension (lying and standing) was found however to be more common than essential hypertension the incidence being 3 9% in the study Nearly twice as many men as women were found to demonstrate diastolic hypertension The presence of diastolic hypertension in the standing position alone was found to be even more frequent averaging 4 1% with a sex ratio of about 3 5 men to one woman The possible role of the erect posture as one of the factors in essential hypertension is considered

CURRENS J.H REID E.A.S MACLACHLAN E.A TERRY M.L BUTLER A.M & WHITE P.D
Physiologic metabolic and electrolytic balance studies of hypertensive patients while on the rice diet
Jour Clin.Invest XXVIII 776 1949

In an effort to investigate the rice diet two men were studied before and after instituting dietary therapy The following observations were made The blood pressure fell in one patient after 2 weeks (174/126 to 160/111) and in the other after 3 months (166/112 to 147/87) The addition of 9 grams of salt per day to the latter resulted in a rise of 164/103

CUSHING H Hyperactivation of neurohypophysis as pathological basis of eclampsia and other hypertensive states
Am.J Path 10 145 176 March 1934

The author discusses the following topics with case illustrations (1) Neurohypophysial activation in pituitary basophilism (2) Neurohypophysial activation in eclampsia (3) Essential hypertension in the prime of life (4) Hypertension with atherosclerosis in the aged

The basic hypothesis underlying the author s presentation is that the degree of basophilic infiltration may represent a measure of neurohypophysial activation

In serial section of 6 out of 9 pituitary bodies from fatal cases of eclampsia a heavy infiltration of basophilic elements in the posterior lobe has been disclosed the same condition was also observed in a number of glands from cases of essential or nephrovascular hypertension That with aging there is a tendency for basophilic cells to enter the posterior lobe has been known for a long time and has been looked upon merely as a concomitant of old age especially when accompanied by atherosclerosis and renal disease

The author reports the following conclusions from his observations

1 That the source of the hypertension disorders mentioned above lies in the posterior love of the pituitary body

2 That the extent of basophilic invasion from the pars intermedia is a measure of posterior lobe activity

3 That excessive infiltration by these elements represents the histopathological basis of eclampsia and essential hypertension in yong persons and may possibly also be related etiologically to the atherosclerosis of old age

The author believes that the hypothesis he advances will provide incentive to include detailed study of the neurohypophysis in forthcoming post mortem studies of disorders in which hypertension is a distinguishing feature

CYRIAX E F The effect of mechanotherapeutics on the maximum readings in cases of high blood pressure
Med Press Lond n s cxxi 315 1926

The reactions of heart and arteries to general exercise are not the same as those to purely localized exercise in which all the muscles not engaged in the actual movement are in a state of relaxation In the latter case if movements of moderate intensity are performed there ensues an immediate fall of the local blood pressure due to local vasodilatation Above reactions also ensue in certain cases of heart disease and high blood pressure In contrast to therapeutic method of rest in cases of high blood pressure which reduces patient s circulatory tolerance to exercise localized resisted movements have opposite effect Mechanotherapeutics has the following means which are valuable adjunct to localized resisted movements in treatment of high blood pressure 1 Localized passive movements 2 Petrissage of muscles 3 Abdominal petrissage 4 Breathing exercise 5 Movement to remove any persistent local source of irritation producing pressor effect 6 Direct manipulations on nerves

The author presents results of mechano therapeutics in 43 cases of high blood pressure In conclusion he writes concerning ultimate results of treatment It seems however highly probable that many cases of high blood pressure are permanently benefitted inasmuch as the treatment mentioned causes the blood pressure to fall and not to rise again

D ABREU F Surgery in severe essential hypertension
Postgrad.M.J Lond 24 463-469 No 275 Sept 1948

Using the Smithwick technique the author reports the results of this operation on a series of cases of severe types of hypertension with analysis of results All except one received great benefit from the operation

The author argues for surgical intervention in every case of marked hypertension except where severe renal damage is present or the patient has advanced arterial changes such as are present in old age He believes the operation is justified if symptoms are merely relieved
Tables and Plates

DALEY R.M UNGERLEIDER H.E & GUBNER R.S Prognosis in hypertension (in relation to therapy)
J.A.M A 121 383 389 Feb 6 1943

Numerous factors all of which must be considered to determine the prognosis in hypertension The more important questions to be answered are

1 Does a state of hypertension exist and if so to what degree ?
2 Can a known cause for the hypertension be found ?
3 What is the extent of the organic changes in the heart arteries arterioles and kidneys ?

These among other considerations including sex age and the presence of associated conditions such as diabetes obesity are important in estimating the life expectancy and the benefit which may be expected from therapeutic procedures available at the present time

DALLY J F.H   Treatment of high arterial pressure by diathermy
Brit.J.Actinotherapy 5 226 228 Feb 1931

At the present moment laboratory and clinical opinions as to the effects produced by the passage of an alternating current of high frequency through the tissues of the human body are so divergent as to be almost contradictory Electrotherapists state that by the passage of an alternating current of very high frequency the body is heated not merely on the surface but throughout and that such heat is generated in the tissues along the path of the current In opposition to this view Bettham and Crohn noted in the living tissues of chest and abdomen a rise of temperature in the skin and tissues directly subadjacent but no appreciable elevation of temperature in deep tissues

In the experience of the author diathermy constitutes a valuable and convenient method of lowering certain arterial pressures even if the original cause or causes of the pressure increase be not discoverable He presents conclusions based on his own experience regarding its success with regard to the follwing groups of patients

1 Hyperplesia
2 The autonomic endocrine group
3 The allergic group
4 The intestinal sub infection group
5 Circulatory conditions not included above
6 Gross cardiac arterial and renal disease and low pressure states

DALY I de B & VERNEY E.B   Cardiovascular reflexes
J Physiol Lond 61 268 274 1926 1927

The general problem studied concerned the establishment of evidence that a reflex mechanism was in volved in the production of cardiac slowing in response to a rise in aortic pressure

A method was devised in which the aortic pressure the arterial head pressure and the blood flow could be varied at will in the intact animal

This method by which the blood pressure and blood flow to the head neck and right fore-leg can be varied independently of the aortic pressure in the intact animal is described

The results show that a rise in aortic pressure causes reflex slowing of the heart when the cerebral press ure is kept constant

Tables Photographic charts

DAOUD K.M & EL AYYADI M A.S   Relation between vitamin C and adrenalin
Biochem.J 32 1424 1434 Sept 1938

Small doses of unneutralized vitamin C injected into a pithed cat have no effect on the blood pressure but large doses have a depressor effect When the vitamin is adjusted to the physiological pH it has no action The effect of the large doses of the unneutralized vitamin is ascribed to its acidity rather than to its real influ ence

At the physiological pH vitamin C aufments neither the magnitude nor the duration of the adrenalin effect on the blood pressure but the acidic vitamin diminishes both its magnitude and its duration The destruction of adrenalin is the same in normal intact animals as those saturated with vitamin C Any protective effect of the latter on adrenalin is combatted by other destructive factors operating in the organism

In vitro at pH 7 ascorbic acid has a limited protective effect on the pressor activity of adrenaline It appears that this protection consists in a temporary hindrance of further auto oxidation of a primary oxidation product of adrenalin which has a lower pressor activity than the original compound

Tables

DARLINGTON H F   Vascular hypertension challenge to modern medicine
Hahneman.Monthly 76 603 616 July 1941

The author summarizes the article as follows

1 Definition of hypertension as compared to physiological variation

2 Theories as to etiology of hypertension

3 Hypertension is not the result entirely of the pathological changes in the small arterioles but it is at least associated with that change

4 Discussion of three ways in which change in size in arteriole walls is brought about (a) Morphological change in vessel wall (b) Vaso-constriction of nervous origin (c) Vaso-constriction from toxic or clinical agents either directly or indirectly

5 Goldblatt s theory of renal ischemia and production of hypertension

6 Treatment is discussed under the headings (a) Hygienic (b) Medicinal (c) Surgical (d) Bio physical

The paper also reports a study of 19 patients suffering with systolic pressure above the normal The author concludes   After a 6 months study of the clinical value of bio physical therapy in hypertension I am convinced that it is not a panacea

Tables

DARROW C W & SOLO ION A P   Galvanic skin reflex and blood pressure reactions in psychotic states reactions to sensory indifferent ideational and crucial ideational stimuli
Arch.Neurol & Psychiat 32 272 299 Aug 1934

A study of clinical data from psychotic patients in relation to their resistance levels and their blood press ure and galvanic skin reflex reactions to sensory indifferent and crucial ideational stimuli shows

1 Both small changes in blood pressure and small galvanic skin reflex reactions tend to be associated with impairment of the physiologic functions of the body

2 Small blood pressure reaction to crucial ideational stimuli together with small galvanic reactions to all forms of ideational and to sensory stimuli tend to be associated with irritability and related manifestation

3 The combination of small galvanic reactions to ideational stimuli with large blood pressure tends to be associated with irritability and related manifestations
Histogram

DAVENPORT M T - Low sodium diets in hypertension
Delaware State Med Jour XX 208 1948
1 Low sodium diets in the treatment of hypertension have proven effective in selected cases
2 Rice protein is preferred as it produces nitrogen equilibrium on less quantity than wheat in addition to its being lower in sodium
3 The average hypertensive patient can tolerate 200 mg sodium daily
4 Potassium value is recognized because sodium and potassium are not interchangeable and a preponderance of one or the other will cause pronounced changes in the water balance and in the base concentration of the body fluids
5 The nutrition Service of the State Board of Health has prepared tables of sodium and potassium values of food in commonly used proportions Also available is the diet plan of the University of Michigan Hospital Diet Manual

DAVIS D & KLAINER M J Hypertensive heart disease factors in production of congestive failure
Am Heart J 20 98 105 July 1940
The anatomic changes in 49 patients with hypertension and 25patients without hypertension all of whom had congestive failure were compared In the non hypertensive group marked coronary disease was present in 23 (90%) occlusion of the major coronary arteries in 19 (76%) and myocardial infarct in 14 (56%)
In the hypertensive group marked coronary disease was present in 26 (53%) coronary occlusion in 16 (33%) and infarction in 10 (20%)
Factors other than coronary disease play an important part in heart failure of hypertensive origin in at least 40% of cases

DAVIS D & KLAINER M J Hypertensive heart disease factors in production of angina pectoris
Am Heart J 19 198 205 Feb 1940
The anatomic findings in 40 cases of angina pectoris with hypertension and 21 cases of angina pectoris without hypertension were compared An extreme degree of coronary disease involving two or more major arteries was present in 95% of the patients without hypertension and in only 39% of the patients with hypertension The incidence of myocardial infarction was correspondingly very much higher in the patients without hypertension Angina pectoris thus often develops with less coronary disease if the patient has hypertension Factors other than coronary insufficiency which are important in the production of angina pectoris in hypertensive heart disease are (1) cardiac hypertrophy and (2) increased cardiac work
Tables

DAVIS D & KLAINER M J Hypertensive heart disease role of hypertension per se in development of coronary sclerosis
Am Heart J 19 193 197 Feb 1940
Data are presented to show that the elevated blood pressure per se is not the most important factor in the production of coronary disease Patients with severe hypertension as evidenced both by the general blood pressure level during life and by the extent of cardiac hypertrophy at necropsy did not have any more coronary disease than did patients with mild degrees of hypertension patients with hypertension caused by primary renal disease actually showed less coronary disease than a corresponding group of patients who did not have hypertension
The frequent association of coronary atherosclerosis with hypertension suggests that the two are independent results of some common etiologic factor
Tables

DAVIS D & KLAINER M J Hypertensive heart disease incidence of coronary atherosclerosis in cases of essential hypertension
Am Heart Jour 19 185 192 Feb 1940
Findings on 137 patients and 324 controls
1 Patients with essential hypertension have more coronary atherosclerosis than patients without hypertension The difference in incidence amounts to almost 76%
2 The difference is particularly striking before the age of 50
3 Men without hypertension have much more coronary disease than women without it especially before the age of 60
4 Essential hypertension increases the incidence of atherosclerosis proportionately in both series
5 In spite of the higher incidence of hypertension in women the degree of coronary atherosclerosis in women with hypertension remains significantly lower than that in men with hypertension The actual incidence of severe coronary sclerosis in women with hypertension approximates that in men without hypertension
Tables

DAVIS H J Blood pressure in old age
Human Biol 2 264 276 May 1930
The object of this study is to put on record the chief biometric constants of individual variations in blood pressures among persons falling in age near the upper end of the life span Two different series of data one English and one American give nearly the same mean and median values for systolic pressures 155 158 The mean diastolic pressure is lower in the English series 79 against 89 in the American series
Tables

DAVIS J O & SCHOCK N W The effect of body position and reference level on the determination of venous and right auricular pressure

Am.J.M.Sc 218 281-289 No 3 Sept 1949

The experiments performed in this investigation demonstrate an increase in antecubital venous pressure with a change in body position from a supine to an erect posture

The findings that the tilting as well as the bending of the patient resulted in an elevation of venous pressure indicates that local pressure on the veins from the surrounding structure is not the causative factor

Right auricular pressure decreased in each of two subjects with a change from the supine to a 45 degree sitting position This fall in intracardiac pressure might be the result of a shift in blood from superior to inferior parts of the body by gravity

Tables

DAVIS L LINDBERG H A & TREGER N V The results of a specifically coordinated plan of medical and surgical treatment of essential hypertension

Tr.Am Surg.Ass 66 451-467 Trans meeting May 1948

From a study of 700 patients with essential hypertension the authors have classified them according to therapeutic and clinical types and have given illustrative cases The groups are (1) Fluctuant (2) Plethoric (3) Menopausal (4) High Diastolic (5) Arteriosclerotic hypertensive

A discussion of choice of cases for surgical treatment chosen from the group of patients classified as belonging to High Diastolic Type of hypertension is given Surgical procedures and results are described along with reports of biopsy specimens of kidneys taken at the time operation

The authors believe that the results of surgical therapy in patients with hypertension can be evaluated only by a comparison with specific groups of patients belonging to types of hypertension based upon their clinical symptoms and course They suggest that until the results of surgical therapy are made upon accepted classifications of the clinical symptoms and course of this disease confusion in the interpretation of the surgical results will exist

Tables and Charts

DAVIS N.S III Suboptimal nutrition possible cause of arterial hypertension

Mississippi Valley M.J 63 168-170 Sept 1941

The author develops the theory that sub optimal nutrition of the kidney whether due to changes in the caliber of renal arteries to infections to gastro intestinal disturbances or to chronic deficient intake of food may be the cause of arterial hypertension Such sub optimal nutrition may cause changes in the cellular chemistry that result in the formation and liberation of increased amounts of a normal or abnormal pressor substances While these pressor substances seem to be formed for the most part by the renal cells it must be remembered that like thyocyanate the lack of the necessary unsynthesizable elements in the diet has some effect on all cellular chemistry

While its causal connection with arterial hypertension cannot be proven until more is known of cellular chemistry sub-optimal nutrition can theoretically cause changes in the chemistry of the renal cell similar to those that result from mechanical reduction in its blood supply and may explain the etiology of hypertension

DAVIS N.S III Treatment of patient who had arterial hypertension

Mississippi Valley M.J 62 93 May 1940

A general article in which the author discusses the possible etiology of hypertension relating it to kidney disease and its treatment He considers both medical and surgical therapy dietary measures and hygienic procedures

DAVIS W.D FR & MAYERSON H.S Blood volume and sympathectomy in hypertension

Proc.Soc.Exp.Biol N U 68 117 120 No 1 May 1948

The only post operative change of consistently long duration observed in 20 patients with hypertensive vascular disease was immediate decrease in the red cell mass with tendency toward delayed recovery The authors report no consistent deviation from normal in the preoperative determination

Patients with low red cell masses preoperatively showed poor post operative response and there was a general tendency for patients with long term vascular disease to have low blood volume

Charts

DAVISON C & BRILL N Q Essential hypertension and chronic hypertensive encephalopathy (clinico pathologic study)

Ann.Int.M ed 12 1766 1781 May 1939

A series of 7 case reports of patients with essential hypertension and chronic hypertensive encephalopathy (term defined by authors) are presented Revaluation and reinterpretation of the subject in light of pathological changes reported in the literature and those shown in the 7 cases presented in the article form the remainder of the paper The following conclusions are reached

1 Hypertension is associated with generalized arteriolar changes

2 In some instances cerebral vessels primarily are affected resulting in widespread neural involvement with relative sparing of heart and kidney

3 Clinically these cases are characterized by diffuse hemological signs and symptoms and by a progressive down hill course Death resulted from cerebral failure usually from a terminal hemorrhage

Illustrations

DAWSON LRD STARLING D.H (et al) Discussion on hyperpiesia
Brit.M.J Lond ii 1161 1170 1925

1 Lord Dawson Discussion of physiological considerations and what constitutes normal blood pressure Report of study of blood pressure in youth and the early stages of hyperpiesia 650 school children were examined age limits 10 to 17 and also a group of 300 adult men in good state of health

2 Ernest H.Starling Deals with the physiological factors in hyperpiesia Report of experiments which show the insistence of the vasomotor center on its average and constant blood supply

3 H.Batty Shaw Case history illustrating the features of a hyperpiesic crisis

4 Otto May The statistical relation between hyperpiesia and mortality based on proposals made to the Prudential Assurance Co 1920 1924

5 Geoffrey Evans Definition of hyperpiesis Discusses its general characteristics both ante and post mortem Hyperpiesia has a morbid anatomy by which it can be recognized after death

6 F.H.Hymphris Electric treatment of hyperpiesia its effect on the blood pressure and mechanism Electricity properly administered does a great deal for patients presenting certain symptoms associated with hyperpiesia

General discussion presented in conclusion

DAWSON P.M Effect of physical training and practice on the pulse rate and blood pressures during activity and during rest with a note on certain acute infections and on the distress resulting from exercise
Am.J Physiol Balt 1 443-479 1919 1920

The author reports of an intensive study on himself He describes the method of making the observations the modes of exerciseemployed and the results obtained Consideration is given to

1 *The effect of training upon the resting pulse rate blood pressures and their derivatives*
2 The effect of training or of practice or of both upon the cardiovascular reactions to exercise
3 Miscellaneous observations made during periods of acute infections

Extensive tables and charts

DAY MILDRED E The influence of mental activities on vascular processes
J Comp Psychol ,Balt iii 333-377 1923

The object of this study is an investigation of individual differences in certain vascular processes during periods of rest physical activity and mental activity wherever changes in these processes are observed

Two groups of subjects were selected 1 Group of adults 2 S hool groups from 4th and 5th grades of a privateschool

It was found that the fluctuations in systolic and diastolic blood pressure are not concomittant with a change in the pulse rate The conclusion is that unlike the pulse rate the blood pressure is not significantly affected by the physical and mental exercise given in this investigation

Tables and charts

DAY T.D & ARMSTRONG T G Fibrosis of liver in heart failure
J Path & Bact 50 221 226 March 1940

Eleven case were investigated in which a persistent rise in venous pressure was associated with fibrosis of the liver of a highly characteristic type This was not the result of an inflammatory reaction to toxic or in fective agents but must be considered to be the direct result of the altered haemodynamic conditions The role of edema in the production of fibrosis is discussed

Illustrations

DEAN A L & ABELS J C Study by newer renal function tests of unusual case of hypertension following irradiation of one kidney and relief of patient by nephrectomy
J Urol 52 497 501 Dec 1944

At the age of 20 years a woman with apparently normal blood pressure received radiation in the left upper quadrant of the abdomen Seven years later she had severe headaches the blood pressure was abnormally high and the left kidney was shrunken

The kidneys were studied separately by the function tests commonly employed and by more refined methods which measure glomerular secretion tubular absorption and rate of blood flow through the organs The latter tests showed the right kidney normal in all of these activities and the left kidney markedly deficient in all Vascular lability was poor

After removal of a sclerosed left kidney the blood pressure and vascular lability became normal and have remained so for 14 months The function of the remaining kidney may have improved

The authors suggest that when it is important to know the functional capacity of a kidney the newer tests should be made because the tests of renal function commonly employed by urologists are frequently inaccurate

DEAN J V.B Relation of cardiac enlargement to hypertension in acute and chronic glomerulonephritis
Am.J Med 1 161 167 Aug 1946

1 Cardiac enlargement occurring in acute glomerulonephritis may persist for many years after the acute attack without evidence of significant hypertension at any time

2 Hypertension occurring in chronic glomerulonephritis may be present for many years without evidence of significant cardiac enlargement as determined clinically

3 Height of the blood pressure and size of the heart as determined clinically in glomerulonephritis may be completely unrelated

It is concluded that malignant hypertension is a syndrome which may occur with no evidence of previously existing hypertension or as end stage of essential hypertension or as end stage of a miscellaneous group of diseases characterized by secondary hypertension It is usually impossible to decide during life whether the hypertension is primary or secondary to some unrecognized morbid process Since malignant hypertension is a syndrome renal pathological findings will vary widely in patients Presence of acute necrotizing arteriolitis does not establish the diagnosis of malignant hypertension nor does its absence rule it out In any event the prognosis is almost always poor

In rare cases remission of symptoms and resolution of the retinitis may occur the pressure however remains unchanged After 4 to 6 years the downhill course again appears with fatal termination as in other cases of malignant hypertension

Tables

De TAKATS G Surgical treatment of high blood pressure
J Arkansas M.Soc 45 1 6 June 1948

The author discusses the surgical treatment of hypertension on the basis of 250 operated patients The early juvenile type of hypertension has given excellent results A second group harboring considerable organic damage is still regarded as operable except that a restoration to normal levels cannot be expected Such patients benefit from a stabilization of their blood pressure from an arrest of the process tending toward a malignant phase and from an alleviation of symptoms due to the pounding of their vascular tree The third group consists of the premalignant and a malignant phase with continuous fixed angispasm and permeability changes in the blood vessels This group is not regarded as suitable for operation According to the author so far no single or combined method of treatment can be recognized which would give rigidly selected hypertensives as much benefit as the transdiaphragmatic type of splanchnic nerve section combined with dorsolumbar sympathectomy

De TAKATS G & FOWLER E F Surgical treatment (splanchnic nerve resection) of neurogenic versus renal hypertension from standpoint of operability
Surgery 21 773 799 June 1947

This discussion is divided into the following sections (1) the neuro endocrine group (2) the renal group including unilateral hypoplastic kidney (3) hypertension following renal trauma (4) the pyelonephritic hypertension (5) the rheumatic hypertension

A group of case histories is presented of hypertensive patients who have done well moderately well and poorly after splanchnic nerve section The operation employed was the transdiaphragmatic approach The clinical history and renal biopsies enabled the investigators to seperate two groups (a) those suffering organic renal damage who showed good response to surgery (b) the so-called neurogenic group who failed to respond even though there was little or no detectable damage The authors suggest that such hypertension exhibits a hypothalamic pituitary stimulation which is not mediated by the sympathetic nervous system

Tables Plates Charts

De TAKATS G GRAUPNER G W FOWLER E F & JENSIK R J Surgical approach to hypertension second report (transdiaphragmatic splanchnic nerve resection with renal biopsies
Arch.Surg 53 111 163 Aug 1946

The surgical treatment of hypertension based on the preoperative and postoperative study of 52 patients is discussed The selection of patients suitable for operation is dealt with The surgical procedure is described The transdiaphragmatic approach to which a unilateral renal biopsy is added has been employed in this series The follow up system is described

Illustration

De TAKATS G HEYER H E & KEETON R W Surgical approach to hypertension
J.A.M A 118 501 507 Feb 14 1942

30 patients with essential hypertension were subjected to operative procedure The hypertensive state was classified as early moderate marked and malignant It was noted that malignant hypertension is a contra indication to operation The surgical procedures used were supradiaphragmatic infragiaphragmatic and the trans diaphragmatic splanchnic nerve section the vascular implant to the kidney and nephrectomy Of the splanchnic nerve sections the transdiaphragmatic section produced the only real reduction of high blood pressure Outside the actual lowering of blood pressure the gradual improvement of renal function the postural hypotension and the decrease in reflex nervous irritability due to adrenal denervation constitute the mechanisms of relief obtained

De TAKATS G & SCUPHAM G W Revascularization of ischemic kidney
Arch.Surg 41 1394 1413 Dec 1940

Four hypertensive patients in whose cases the diagnosis of malignant nephrosclerosis was made were operated on with the idea that the ischemic kidney might obtain some additional circulation The kidneys were decapsulated the cortex was incised and the omentum or a pedicled muscle flap was wrapped around the kidney The four case reports are summarized One patient has been followed for 3½ years In no patient was there a definite improvement It is possible that if patients with essential hypertension with earlier or more proximal vascular damage were subjected to such a procedure the condition might be arrested or improved The importance of taking renal biopsy specimens and the difficult interpretation of biopsy observations in the early stages are emphasized For the late stages in which the patient is referred to the surgeon renal vascularization has been of no value

Photographic illustrations

DETERLING R.A.JR & ESSEX H.E   Studies on peripheral circulation and epinephrine sensitization following sympathectomy

Am Heart J 38 248 259 Aug 1949

Experiments were performed on dogs to study the effects of lumbar sympathectomy on peripheral circulation of the hind limbs Significant rises of distal cutaneous temperatures and arterial blood flow and a decrease of peripheral arterial pressure followed preganglionic denervation Epinephrine was injected intravenously immediately after unilateral sympathectomy An increase of peripheral arterial pressure and flow of greater extent and duration than on the control side was noted Further experiments were performed on dogs after unilateral lumbar sympathectomy When the continuity of the femoral arteries was maintained no difference in the effect of epinephrine on the peripheral arterial pressures of limbs could be shown but a difference was evident when the peripheral arterial beds were isolated

In control animals administration of epinephrine resulted in a brief rise of pressure and outflow in the femoral veins coincident with the first part of the rise of arterial pressure The pressures and flow then abruptly decreased to the control level or less during the latter portion of the arterial response This also occurred after sympathectomy but was less marked on the denervated side

Plethysmographic studies were carried out on an intact and on a denervated kidney Epinephrine given immediately after the post ganglionic denervation similarly resulted in a greater decrease of volume and a longer duration of the effect in the denervated organ These data suggest strongly that hypersensitivity of blood vessels to epinephrine may occur immediately after both preganglionic and postganglionic sympathectomy *Plates*

De WESSELOW O.L V.S & GRIFFITHS W.J   Question of pressor bodies in blood of hypertensive subjects

Brit.J.Exper Path 15 45 52 Feb 1934

A report of an investigation of the behavior of certain known physiological pressor bodies under the conditions of extraction were employed No pressor effect was seen on ejecting the blood extracts of malignant hypertensives or of chronic glomerulo nephritics with hypertension The results in no way suggest that any type of hypertension is due to the absence of a depressor substance

The authors likewise do not feel justified in concluding that with these methods any evidence of pressor bodies in the blood of hypertensive patients has been obtained

DEXTER L & HAYNES F W   Relation of renin (kidney extract) to human hypertension with particular reference to eclampsia pre eclampsia and acute glomerulonephritis

Proc.Soc.Exper.Biol & Med 55 286 290 April 1944

Significant amounts of renin have been detected in the blood of one patient with eclampsia two with severe pre eclampsia and one with fulminating acute glomerulonephritis No renin has been found in the blood of patients with milder degrees of toxemia of pregnancy and acute glomerulonephritis nor of patients with chronic hypertension of all degrees of severity

DEXTER L WEISS S HAYNES F W & SISE H.S   Hypertensive toxemia of pregnancy and eclampsia and pre eclampsia

J.A.M A 122 145 152 May 15 1943 comment by Hofbauer 122 892 July 24 1943

A summary of work done on hypertension in pregnancy in an effort to clarify the problem of the multitude of ill defined terms and lack of critical analysis of the various types of hypertension that may occur during gestation The study is based on observations of (1) 100 normal pregnant women (2) 100 patients presenting generalized edema uncomplicated by hypertension during pregnancy These were correlated with and amplified by salient reports in the literature

Approximately 75% of all pregnant patients have easily demonstrable generalized edema rarely of pathological significance to mother or foetus in absence of hypertension More than 90% of previously normal patients showed no vascular complications during pregnancy Approximately 50% of previously hypertensive patients suffer no aggrevation during pregnancy regardless of the degree of hypertension before pregnancy 6 to 9% of previously normal patients have hypertension in latter half of pregnancy 50% of previously hypertensive patients had toxemia in latter half of pregnancy Etiology of toxemia of pregnancy is unknown though evidence ppints to the placenta as being primarily responsible for the condition Pathologically most characteristic and constant lesions in toxemia are in the kidney and consist of a glomerulonephrosis Interruption of pregnancy after 3 weeks of conservative therapy to prevent the occurrence of permanent vascular disease in the mother is advocated

DEXTER LEWIS   Clinical aspects of the hypertensive toxemia of pregnancy

Bull.New England Med Center IV 164 166 August 1942

The author represents the point of view of the internist rather than the obstetrician There is a description of hypertension and albuminuria which occurs in 6 to 8% of patients going through pregnancy and occurs in the latter half Hypertension or albuminuria may subside before delivery but if they persist they always subside soon after delivery

Patients with hypertension of any form may have an uncomplicated course during pregnancy This is referred to by the author as hypertension uninfluenced by pregnancy

The other half of hypertensive patients develop toxemia of pregnancy i e an accentuation of their hypertension or albuminuria which is clinically and from laboratory point of view indistinguishable from the pre eclampsia and eclampsia occurring in patients whose blood pressure and urine are normal before pregnancy A description of hypertoxemia of pregnancy is given Eclampsia rarely leads to persistent hypertension

DICK G F & SCHWARTZ W.B Rice and fruit juice diet response of experimental hypertension
Proc.Soc Exper.Biol & Med 65 22 23 May 1947

A preliminary report of a study of 12 hypertensive dogs kept for 8 weeks on the Kempner regime Hypertension in dogs had been maintained for 2 to 4 years A significant reduction in arterial pressures occurred in 10 of 11 dogs The role of weight loss salt restriction and nitrogen balance in this result requires further study
Table of blood pressures before and after Kempner diet

DICK M Respiratory and circulatory responses to intravenous oxygen and their relation to anoxemia
Am.J Physiol 127 228 231 Sept 1939

It is well known from the works of Binger that rapid shallow breathing occurs when multiple emboli of the pulmonary arterioles and capillaries are produced experimentally on dogs Object of this investigation was to study the anoxemia and the associated respiratory and circulatory changes Experiments were performed on dogs Results

1 The temporary pulmonary embolism produced by intra venous oxygen is accompanied by anoxemia beginning almost immediately This is related to increased pressure in the right ventricle while the aortic pressure if the injection is sufficiently slow may not fall The causes of this anoxemia are discussed

2 There is a marked increase in pulmonary ventilation beginning somewhat later than the anoxemia and persisting long after it has disappeared This is due to a reflex passing up the vagus probably arising from the pulmonary circuit

DICKSON A T.B Note on blood pressure (relation to posture)
Tr.Edinburgh Obst Soc 85 91 1933-1934 in Edinburgh M.J July 1934

Preliminary investigation upon cases of eclampsia found without exception that the back blood pressure was always higher by about 15 20 mm Hg than the side blood pressure Further investigation was made on a series of 30 cases including 2 male no notice being taken of the presence or absence of pregnancy medical or surgical With few exceptions every case showed a fall in both systolic and diastolic pressures maximum systolic fall 34 mm maximum diastolic 30 mm

The author considers possible explanations for this phenomenon suggesting both mechanical and nervous causes He outlines the usefulness of the observation for prognosis and suggests a research plan for investigating the prognostic value of the findings

DIECKMANN W.J Hypertensive toxemia of pregnancy
S Clin.North America 23 11 20 Feb 1943

Approximately half of the patients with so called toxemia of pregnancy have permanent vascular disease as the basis for the condition The hypertension may be present before or may develop during pregnancy An analysis of a case is presented The treatment of hypertensive toxemia is summarized criteria for indications of severe toxemia are given and the treatment of eclampsia is discussed
Tables

DIECKMANN W.J & BROWN I Do eclampsia and pre eclampsia cause permanent vascular renal pathology ?
Am.J Obst & Gynec 37 762-776 May 1939

The article collates data presented in the literature and those of the authors obtained from repeat pregnancies after toxemia

The article covers various aspects of eclampsia and pre-eclampsia and the conclusions drawn are detailed The authors do however make two general statements

1 We believe that true eclampsia and pre-eclampsia do not cause permanent vascular or renal damage and that where such damage occurs either the condition was not eclampsia or pre-eclampsia or these diseases were superimposed on a patient with a predisposition ty hypertensive arterial disease

2 Eclampsia and pre eclampsia rarely occur without premonitory signs Either disease may recur but such repetition should always suggest vascular renal disease

DIECKMANN W.J MICHEL H L & WOODRUFF P W Cold pressor test in pregnancy
Am.J Obst & Gynec 36 408 412 Sept 1938

The cold pressor test was used in 152 normal pregnant women An increase in the systolic pressure of 30 mm or more was considered abnormal 90 patients were hyperreactors 15 developed toxemia and an additional 13 has transient abnormal vascular renal signs 62 patients gave a normal test Only two developed a toxemia and an additional five had transient signs

The cold pressor test is compared with the pituitrin test An abnormal reaction of the former in a pregnant woman seems to indicate that she may develop a toxemia in which the hypertension is the predominant finding An abnormal pituitrin reaction commonly occurs in patients with toxemia of the pre eclamptic type
Tables

DIEHL H.S Racial differences in blood pressure
Minnesota Med 14 726-728 Aug 1931

Differences exist in the mean and median blood pressure of certain racial groups of students of the University of Minnesota The Filipinos Chinese and Japanese exhibit the lowest median systolic pressures the pressures of Negroes were slightly though not significantly higher while the Americans and the Scandinavians had the highest pressures of any of the student groups

A group of Chippewa Indians of the same age and sex as the University students but examined under somewhat different conditions had higher systolic pressures than any of the student groups
Tables

DIEHL H.S Morning and evening studies of blood pressure
Arch.Int.Med 43 835 845 June 1929

Readings of the blood pressure of 100 male university students were made in the morning and evening of 6 consecutive days The group was unselected and apparently of average height weight and blood pressure

The mean morning pressure was 114 94 and the mean evening pressure was 124.37

Study of the individual cases show that in some subjects the difference between morning and evening pressures is consistently great enough for the one to be considered normal and the other hypertension and that in other cases the variation from day to day in the same person is sufficiently great for the pressure to be considered normal on one day and as hypertension on a subsequent day

DIEHL H.S & HESDORFER M.B Blood pressure in young men over 7 year period
Arch.Int.Med 52 948 953 Dec 1933

A 5 10 year follow up study of systolic blood pressure in 155 young men is reported Average age at time of original examination was 19 8 years

The men are divided into 5 subgroups on the basis of blood pressure records when in college and blood pressure readings at the time of the follow up studies are presented

The results apparently indicate that young men who show elevations of blood pressure even though these are transient are more likely to have high blood pressure after 5 10 years than men whose blood pressures at the earlier ages were within so-called normal limits and that the greater the degree or the frequency of the elevation in earlier years the greater is the likelihood of high pressures later

Tables and Charts

DIEHL H.S & SUTHERLAND K.H Systolic blood pressures in young men including a special study of those with hypertension
Arch.Int.Med Chicago xxxvi 151 173 1925

A study of 5 122 young men who entered the University of Minnesota during the years 1920 1924 The calculated proportion of the entire group examined who showed secondary hypertension was 1 2% transient hypertension 5 4% intermittent hypertension 2 8% and persistent hypertension 1 6%

Nervousness and excitement seem to be the most important factors in the production of transient hypertension in young persons

There seems to be some relationship in this group between overweight and persistent hypertension but none between vital capacity and hypertension

DIPALMA J.R & FOSTER F.I Sensitivity of smallest cutaneous blood vessels quantitative responses to graded mechanical stimulation and to local ischemia in arterial hypertension arteriosclerosis and certain allied disorders
J Clin.Investigation 21 675 683 Nov 1942

The responses to graded mechanical stimulation and to local ischemia of the smallest blood vessels of the skin of the ventral surface of the forearm were quantitated in 50 patients with arterial hypertension 25 patients with arterial hypertension associated with arteriosclerosis and 23 patients with arteriosclerosis Also included in this study were 11 cases of malignant hypertension and 13 cases of hypertension associated with various types of nerve lesions which influenced their capillary sensitivity These results were compared to similar studies on a suitable control group of 32 subjects The implications of the abnormal re sponses obtained were discussed

After presenting their conclusions the authors write The above conclusions suggest that the humoral agent now believed responsible for arterial hypertension does not exert its influence upon the smallest blood vessels in the benign stages of the disease but may do so in the later malignant phase If this is confirmed the quantitative responses of the small dermal blood vessels might serve as a criterion of the extent of the vascular lesions in advancing hypertensive disease

Tables Charts

DIXON W.E & HELLER H Production of experimental hypertension by increasing intracranial pressure
Arch.f.exper Path u Pharmakol 166 265 275 1932

Injection of Kaolin into the cisterna cerebello medullaris causes a rise of the spinal fluid pressure Increases in the intra cranial pressure which do not yet influence the aorta pressure can cause a contraction of the splanchnic vessels and a dilation of the vessels in the leg

An increase in the arterial and pulse pressure is noted in dogs only a few days after the injection of Kaolin In a few cases a blood pressure decrease and a paralysis of the extremities was observed after a few months of high arterial pressure

An increase of the intra cranial pressure by means of a pressure apparatus can cause a 30 60 mg in crease of the pressure and increased pulse rate which decreases however if the intra cranial pressure increases further

Charts

DOCK W Role of increased hepatic arterial flow in portal hypertension of c rrhosis
Tr.A.Am Physicians 57 302-306 1942

In large fatty livers and in most cirrhotic livers the total hepatic perfusibility is discussed and the rise in portal pressure is due chiefly to a diminished portal bed in the liver In some alcoholic cirrhotics the hepatic arterial system is large the perfusibil ty of the arterial bed distinctly increa ed In all alcohol cirrho tics the portal hypertension is more marked than it would be if the arterial inflow were reduced Some dam age at the arterial portal anastomosis must be assumed to account for this change In heated alcohol c cirrho sis with ascites or danger of fatal hemorrhage procedures to reduce hepatic arterial inflow may be worth consideration when other surgical procedures such as splenectomy are undertkane

Tables and Charts

DOCK W SHIDLER F & MOY B Vasomotor center essential in maintaining renal hypertension
Am Heart J 23 513-521 April 1942

1 Dogs with renal hypertension maintain arterial pressure above those of controls when in both groups the brain stem has been crushed rostral to the pons or the spinal cord severed and destroyed below C4

2 Removal of moderator nerve impulse by carotid ligation and vagal section causes as marked and striking a rise in pressure in dogs with renal hypertension as it does in normal dogs Renal hypertension is not due simply to partial inhibition of moderator nerve influence if it were complete loss of inhibition would result in the same pressure in controls and hypertensives

3 Complete destruction of the central nervous system lowers the arterial pressure of dogs with renal hypertension to the same level as that of controls similarly treated there is no evidence of a circulating peripherally acting vasoconstrictor substance

4 It is concluded that in animals and man the renal pressor hormone acts through the vasomotor nervous control mechanism that it sets the center for a high level and does not act directly on the arteries
Tables and charts

DOLES H.M Management of patients
South.M.J 35 461-471 May 1942

An account of investigation made clinically and in the laboratory upon individuals with normal blood pressures and upon hypertensive individuals

1 Physiologic changes can influence blood pressure 10-50 mm Sample 3000

2 Cholinesterase is a factor in maintaining vascular tonus Sample 278

3 Aside from emphysema and intrathoracic conditions producing pressure on great veins the only clinical state causing marked rise in pressure is failure of the right side of the heart

4 97% of those of 1 700 patients who were capable of giving intelligent history had one or both parents hypertensive

5 No definite conclusions may be drawn regarding prothombin time though the results indicate vitamin K deficiency is a factor in vascular insults in a certain percentage of cases

6 Effect of the cyanates on prothombin time Sample 57 Patients while receiving potassium thiocyanate or sodium sulphocyanate had prothombin times prolonged 100 727 of normal

7 Observations on protein metabolism and nitrogen balance

8 Intrinsic extrinsic factor

The following statement is made in conclusions These investigations indicate that the deficient intrinsic extrinsic factor may be the underlying cause in the pathogenesis of hypertension This factor is not known
Diagrams and photographic illustrations

DOLES H.M Physiologic factors in hypertension
South M.J 33 858 863 Aug 1940

Patients with hypertension although the level may not exceed 200 mm who fail to show any physiologic variation have advanced arteriosclerosis and are in considerably more danger of some form of vascular insult than are those in whom the pressure is greater but who show these variations

The author believes that Negroes are more subject to hypertension than brunettes white persons and brunettes more subject than blondes
Charts

DONALDSON W Dialyzability of pressor and antidiuretic activities of pitressin (posterior pituitary preparation)
J Clin.Investigation 26 1023 1025 Sept 1947

The purpose of the experiment is to determine the pressor activity for dogs and the anti diuretic activity for humans of the non dialyzable residue following dialysis of pitressin mixed with water and mixed with normal urine

The results were that when mixtures of pitressin with water or with urine were dialyzed both the pressor and antidiuretic activities disappeared from the dialysis residue
Charts

DONNISON C P Cause of hyperplesia presentation of hypothesis (relation to mental or emotional stimuli and Cannon s emergency reaction)
Brit.M.J 1 704 708 April 21 1934

A hypothesis as to the causation of hyperpiesia is presented for consideration This hypothesis suggests that hyperpiesia arises as a result of

1 repeated mental or emotional stimuli leaving factors of stree

2 the induction of Cannon s emergency reaction (rise in blood pressure occurs in animals as a result of an emotional stimulus and that such rise serves the purpose of preparation directed towards efficiency in physical struggle) by such stimuli and

3 the absence of physical struggle following the reaction

DONNISON C P Blood pressure in African native bearing upon aetiology of hyperpiesia and arteriosclerosis.
Lancet 1 6 7 Jan 5 1929

A study of the incidence of high blood pressure among African natives living in Kenya Comparisons are drawn between the results of this study and those of previous studies of Americans and Europeans

The average blood pressure of the African native is found to be consistently lower throughout all age groups than that reported for Americans and Europeans Furthermore examinations over a two year period of 1 800 admittances to a native hospital failed to reveal a single diagnosis of high blood pressure arterio sclerosis or chronic interstitial nephritis

In conclusion the author comments on the possible etiological factors of hypertension He attributes the higher incidence of high blood pressure among Europeans (in part at any rate) to the mental stresses of modern civilization
Tables

DONTIGNY P., HAY E C PRADO J.L & SELYE H Hormonal hypertension and nephrosclerosis as influenced by diet
Am.J.M.Sc 215 442 447 April 1948
In the present paper the authors present a series of experiments of the nephrosclerosis produced after anterior pituitary overdosage The work deals specifically with the effect of diet (protein plus B vitamin contents) upon the hypertension which accompanies this experimental condition

DORRANCE S & McCLELLAN W.S Effect of natural carbonated baths on rate and amplitude of pulse and blood pressure
Arch Phys Therapy 21 133 140 March 1940
Observations of the pulse rate pulse amplitude and blood pressure on 44 patients were made with the Tycos recording sphygmomanometer and 90 pairs of tracings were made before and after the natural carbon dioxide mineral water bath In 86% of the observations there was a decrease in pulse rate which is the typical response to these baths The amplitude of the oscillations increased more frequently than it fell and this was more evident when arterial constriction was present resulting in low amplitude of the oscillation Also the increase was more evident in the arm than in the leg The changes noted in systolic diastolic and pulse pressure were not striking as the number showing increases were nearly the same as that which manifested decreases The amplitude of the oscillations give some evidence that the carbon dioxide bath in addition to producing a peripheral capillary hyperemia results in some dilatation of the smaller vessels of the arterial system
Tables

DOUGHERTY I & DAY M.A C Observations on the peripheral circulation in neurogenic hypertension
Federation Proc ,Balt 7 29 No 1 Pt 1 March 1948
Changes in the peripheral circulation of dogs during neurogenic hypertension have been studied Photo electric plethysmograms are recorded from various areas and pressure pulses are optically recorded from the femoral artery The experiments are acute the recording being continuous throughout the control period the period of operation (removal of the buffer and sympathetic nerves after Heymans) and the subsequent hypertensive period The volume pulse amplitude can be correlated with the variations in pulse pressure The blood pressure usually shows an immediate rise after the denervation a rise to about 240/160 mm being obtained within 2 to 5 minutes In some dogs the rise in blood pressure after the denervation is soon followed by a marked increase in volume pulses in the intestine and muscle decreased blood pressure and death In other dogs the hypertension develops more rapidly rises to higher levels and persists for hours In such cases decreased volume pulses are usually seen in the skin pad intestine and muscle The anesthetic used influences the height of the rise in blood pressure

DOUGLAS R G Hypertension nephritis and toxemias of pregnancy
Am.J Obst & Gynec 34 565 575 Oct 1937
The author states that from a point of view of the prevention of maternal mortality and deaths subsequent to discharge from the hospital it appears that the prevention of pregnancy in patients with definite evidence of cardio renal vascular disease is not only justifiable but is an essential part of obstetric care of patients
The prevention of the development of eclampsia by the earlier detection and treatment of the disease in its pre eclamptic form should be the constant aim in this type of toxemia This latter condition has practically no maternal mortality and a low fetal mortality whereas the former has a much higher incidence of both mortalities
Tables

DOWNING M.E Blood pressure of normal girls from 3 to 16 years of age
Am.J.Dis Child 73 293-316 March 1947
Purpose of the study is to find the normal pressures for the same girls followed from early childhood into adolescence and to find the age or size at which it is best to change from the child to the adult cuff Subjects were normal well girls in the University of Chicago Laboratory School The following conclusions were reached
1 Blood pressure in a single child may vary considerably from day to day
2 Increase of blood pressure in a subject is not constant from year to year Many factors may affect the pattern
3 Important from the clinical viewpoint is to know the normal range of blood pressure with the width of cuff used for the given age and size of child in question and to know when the child varies from his own normal or gets out of normal range for his size
Tables

DOXIADES L Hypertonia in children
Ztschr f Kinderh 53 366 385 1932
The author discusses methods of measuring children's blood pressures Various diseases and their concomittant symptom of hypotonia are presented The same procedure is followed in the discussion of essential hypertension in children The author mentions that the course of hypertonia in children differs from that in adults

EARP, J R   Pulse pressure in men and women
Ohio M J 23 229 1927

Examination of 274 men and 116 women students at Antioch College shows that the pulse pressure of men students is 10 mm higher than that of women students

The difference is greater than the difference of systolic pressure between the sexes It is not accounted for by the use of tobacco by the men

EASTMAN N J & WHITRIDGE J JR   Prevention of toxemia of pregnancy
J A M A 120 729-732 Nov 7 1942

It is well known that both the incidence and the maternal mortality of eclampsia in the U S are declining The primary factor responsible for this decrease in the incidence of eclampsia has been the early detection and appropriate treatment of pre-eclampsia This depends on adherence to an antepartum program outlined by the authors The warning symptoms and physical signs of pre eclampsia are described and therapeutic methods considered

The falling maternal mortality rate from eclampsia at the Johns Hopkins Hospital is directly associated with the type of treatment given It is apparent that chronic hypertension has made up a rather constant per centage of the total toxemias in the Johns Hopkins clinic between 1927 and 1941 and since the latter have in creased the conclusion is obvious that chronic hypertensive vascular disease is also being seen more frequent ly Clinical characteristics of chronic hypertensive vascular disease are discussed by the authors

Figures quoted by the authors show that chronic hypertension is superseding eclampsia as a cause of death in childbearing and has been responsible for almost 80% of the toxemic deaths in the last decade Problems presented by chronic hypertension in pregnancy are quite different from those of eclampsia and pre eclampsia Means of dealing with chronic hypertension in pregnancy are

1 Education of patient with emphasis on prevention of pregnancy
2 Interruption of pregnancy if necessary
3 Sterilization at the time of delivery or after delivery

Charts

ECHT M   Effect of combined veritol metrazol administration on pressure and on reflex autoregulation of circulation
Ztsch f d ges exper Med 112 707 1943

An experiment on animals in which the effect of Veritol and Pentamethylene tetrazol on the blood pressure and vascular system is investigated

It was found that small doses of both drugs improve the reflex autoregulation whereas large doses have a negative effect

EDHOLM O G   Compensatory mechanism of splanchnic circulation during changes of posture
J Physiol 101 1 10 June 2 194"

Because findings indicated that the reason for the imperfect compensation in man in the upright position is due to stagnation of blood in the lower limbs rather than in the splanchnic area the author re examined the problem in animals

The mechanismsin the cat responsible for the fall of blood pressure in the feet down position are examined

1 Evisceration does not abolish the fall but diminishes the vascular compensation

2 Removal of the liver both after evisceration and independently almost abolishes the fall of blood pressure in the foot down position

The reason for the fall of blood pressure is not the collection of blood in the splanchnic area but in the liver The splanchnic area is partly responsible for the compensation following this fall

The recovery of blood pressure on restoring the animal to the horizontal is due to the return to the right side of the heart of the accumulated blood in the liver

Charts

EDMONSON H A & HOXIE H J   Hypertension and cardiac rupture in myocardial infarction clinical and pathologic study of 72 cases in 13 of which rupture of interventricular septum occurred
Am Heart J 24 719 733 Dec 1942

Purpose to find out whether or not a correlation exists between blood pressure and rupture to consider possible relationship of scarring of myocardium and heart weight to rupture

The study is based on records of all patients found to have rupture after myocardial infarction caused by coronary disease in a series of 25 000 autopsies at Los Angeles hospital 1924 1941 All instances of recent un-healed infarction without rupture among these autopsies are used as control group

Study also of records of 100 patients who had convincing clinical and electrocardiographic evidence of acute myocardial infarction and recovered sufficiently to leave the hospital

Statistical clinical and pathological observations are presented together with conclusions regarding spontaneous rupture of heart through area of myocardial infarction

Tables charts and illustrations

EDMUNDS C W   Circulatory collapse in diphtheria especially use of dextrose (Henry Russell lecture)
Am J Dis Child 54 1066 1079 Nov 1937

The author states that the clinical use of dextrose in diphtheria cannot be said to be definitely standard ized as yet Clinical results and laboratory findings indicate that a 10% solution should be given early before symptoms of cardiac disturbance or circulatory failure appear the administration to be repeated as often as necessary The circulatory system is thus directly aided and the heart protected in some degree from the in jury which it would undoubtedly suffer owing to the disturbances in carbohydrate metabolism

EHRSTROM M C Psychogenic hypertension in wartime
Acta med.Scandinav 122 546 570 1945

A study of psychogenic hypertension in wartime The sample consisted of 3 000 persons men and women between the ages of 20 and 35 900 were control peacetime cases

At the first measurement of the blood pressure high pressure over 150 mm occurred in 3 25% of the civilian patients in hospitals during peace time in 10 5% of the military patients in peace time in 9 3% of the soldiers and in personnel serving behind the lines and in 23% of the soldiers in the front lines

EICHNA L W HORVATH S.M & BEAN W.B Postexertional orthostatic hypotension
Am.J.M.Sc 213 641 654 June 1947

The subjects were all young healthy soldiers undergoing some phase of military training beyond basic training Exercise tests were performed to determine physical fitness 2 tests were acute and exhausting the third long and enduring Results

1 Orthostatic hypotension developed in approximately half of the normal young men following vigorous exercise of the lower extremities It followed prolonged moderate work as well as acute exhausting effort

2 In half of those who developed orthostatic hypotension the hypotension was so severe that syncope resulted

3 The orthostatic hypotension persists for long periods over one hour after cessation of the inducing physical efforts

4 The causative factor appears to be a pooling of blood in the dependent lower extremities presumably due to failure of the muscular venopressor mechanism in the legs plus a work induced dilatation of their vascular bed

5 During the orthostatic hypotension maneuvers which move blood out of the lower extremities or exclude blood from them relieve the hypotension

Charts and Tables

EJRUP B Tonoscillography after exercise in peripheral vascular disease and coarctation of aorta
Am.Heart J 35 41 57 Jan.1948

A method for automatic oscillographic blood pressure recording is described By this method oscillograms can be taken in succession without any venous congestion in the examined limb The apparatus is especially suited for the taking of oscillograms after exercise when several successive oscillograms are required to record the type and length of the postexercise period The procedure involved in exercise oscillography is described Results of the exercise - oscillography performed in the case of normal subjects subjects with confirmed structural diseases subjects suffering intermittent claudication subjects suffering coarctation of the aorta and a miscellaneous group of 310 cases are given

The pathogenesis of the abnormal exercise tonoscillogram is discussed and the value of exercise - tonoscillography in the early diagnosis of organic peripheral arterial circulatory disturbances is pointed out Its value and importance in the differential diagnosis between structural and functional changes of the arteries are considered

Photographic illustrations and charts

ELLIOT A.H & NUZUM F.R Cardiovascular response to subcutaneous injection of epinephrine and pituitrin in essential hypertension
Am.J.M.Sc 189 215 220 Feb 1935

Study of the blood pressure and pulse rate measured at 5 minute intervals over a 60 minute period in 32 individuals with essential hypertension wo had received a subcutaneous injection of 1 mg of epinephrin

Average systolic pressure fell slightly over a period of 35 minutes and then returned to pre injection level average diastolic pressure fell to maximum low point at 45 minutes and remained near that level throughout remainder of period The average pulse pressure decreased and the average pulse rate rose

In 40 hypertensive patients studied in a similar manner after receiving a subcutaneous injection of pituitrin a light rise in average diastolic pressure and an equally slight fall in average systolic pressure were observed after 20 minutes The average pulse rate was unchanged

No constant or frequent deviation from the reported normal cardiovascular response to the subcutaneous injection of epinephrin and pituitrin could be demonstrated in this series of patients with essential hypertension

ELLIOT A.R Arterial hypertension 40 years in retrospect
J.Michigan M.Soc 41 463-471 June 1942

A review of the last 40 years up to the present knowledge of hypertension leads the author to the conviction that hypertension is part of a mechanism for compensating visceral deficiency and that rude efforts to reverse blood pressure either by drugs or operation are unphysiologic and disturb some status or equilibrium essential to body well being

ELLIS L.B & HAYNES F W Postural hypotension with particular reference to its occurrence in disease of central nervous system
Arch.Int.Med 58 773 798 Nov 1936

Six cases of postural hypotension are reported In four there was definite evidence of neurologic disease and in an additional case there was some vidence of involvement of the central nervous system

The vascular responses were tested and in two patients measurements of the circulatory dynamics were made The total blood flow was found to be well maintained when the patient was in the erect position

The effects of atropine pilocarpine epinephrine ergotamine and ephedrine were studied Ehedrine was the most effective in relieving the symptoms

The effect of postural change on the blood pressure of patients with tabes dorsalis combined system disease and miscellaneous neurologic lesions was studied Ten of 17 successive patients with tabes had an abnormal postural response of the blood pressure

The etiology and mechanism of postural hypotension are discussed The author concludes It is probable that multiple etiologic causes exist but many instances of postural hypotension are associated with disease of the central nervous system
Tables and charts

ELLIS M.M Pulse-rate and blood pressure responses of men to passive postural changes
Am.J.M Sc Phila clxi 568 578 1921

Subjects were 50 young men 20-31 years drawn from the medical department and air service of the Army

1 In general tilts elevating the head gave a rise in pulse rate a fall in systolic pressure and a rise in diastolic pressure and those lowering the head had the reverse effects

2 The individual data showed that only a little over one third of all cases gave the three responses in pulse rate systolic and diastolic pressure expected from the mass data simultaneously

3 Tilts from reclining to head down 45 degrees and return gave the least constant responses of all the tilts used

4 Tilt from reclining to head up 45 degrees produced almost the same degree of responses as the tilt from reclining to standing

5 With the exception of the tilts in the head down to reclining quadrant the responses given to any tilt were offset by approximately equal opposite responses when tilt was reversed

6 Initial and final positions of the subject had more effect on the degree of responses following a tilt than did the distance travelled by the subject during the tilt
Tables and Charts

EMERSON W.R P & IRVING J G Hypertension and health diagnosis 100 cases
J A.M A 111 1174 1178 Sept 24 1938

A physical fitness service based on health diagnosis was offered to a group of executives employees and policyholders of the Aetna Life Insurance Co Among the first 1 020 men applying for this service were 120 with hypertension Overweight was a cause of hypertension in 40 cases but the by products of incomplete metabolism caused by habitual over eating were apparently more potent causes of hypertension than weight itself The chief cause of hypertension in 28 other cases was faulty health habits The authors experience indicated that hypertension is a symptom and not a disease and this symptom is caused more often by faulty health habits than physical defects

ERNSTENE A C & BLUMGART H L Relation of orthopnea to increased pressure of myocardial failure
Arch.Int.Med 45 593 610 April 1930

A new theory of the mechanism of orthopnea in uncomplicated myocardial failure of the congestive type is offered a patient with myocardial failure and increased venous pressure always tends to maintain an elevation in bed sufficient to keep the respiratory center above the meniscus of the column of venous blood extending upward from the right auricle In the upright position the pressure in the veins about the respiratory center is kept more nearly normal than in any other position and the blood flow in the capillaries feeding these veins is increased to the maximal limit set by the existing myocardial failure

In order to test the validity of the hypothesis 82 comparisons of the height of venous pressure and the degree of orthopnea were made in 22 patients with uncomplicated myocardial failure of the congestive type

In striking contrast to the definite correlation between the venous pressure and the degree of orthopnea no such correlation was found between the percentage reduction of the vital capacity of the lungs and the degree of orthopnea

Although various factors contribute to the relief experienced in the sitting position observations indicate that in all patients with congestive heart failure and increased venous pressure the relatively low cerebral venous pressure in the upright posture is the primary factor in reducing the respiratory discomfort
Tables charts and diagrams

ESHLEMAN C L Phobia of high blood pressure
New Orleans M & S.J 88 219 225 Oct 1935

High blood pressure alone i e unaccompanied by manifest disease of the heart arteries or kidneys is not a menace to life nor a hindrance to many years of active existence Many cases of hypertension when first discovered have competent hearts good blood vessels and satisfactory kidney function Very often the physicians tend to get patients blood pressure minded and produce anxiety states which cause symptoms not directly attributable to blood pressure

ETIENNE G & RICHARD G Heredity in hypertension
Bull Acad de med Paris 109 648 652 May 9 1933

The authors review the literature concerning the part played by heredity in diseases generally and in hypertension ins particular They report on their own study over several years of 1 150 cases of chronic hypertension and 82 non hypertensive individuals suffering from either valvular lesions or cardiac trouble

Observations concerning the hereditary characteristics of these 1 150 cases are given together with a detailed account of two particularly interesting familial histories In 632 cases (55 4%) the familial nature of the hypertension was in the opinion of the authors undebatable

EVANS E MATHEWS M W & WHITE P D Electrocardiogram in hypertension description
Am.Heart J 30 140 165 Aug 1945

A 239 consecutive patients upon whom dorsolumbar sympathectomies were performed by R.H.Smithwick were selected for study 150 electrocardiograms on 132 patients were suitable for analysis Age range 22 to 58 average age 40 years Known duration of hypertension ranged from 2 months to 24 years Eye grounds and renal biopsies varied from normal to Grade 4 Hearts normal to large by teleroentgenogram Diastolic blood pressure on admission varied from 88 to 180 mm Hg

Correlations were made between electrocardiographic changes in limb leads and (a) the known duration of hypertension (b) the height of the diastolic pressure on admission (c) the heart size by teleroentgenogram (d) symptoms (chest pain and dyspnea) (e) eye ground findings (f) pathologic changes in kidneys found in biopsy material

B Precordial leads CF_2 CF_4 and CF_5 have been analyzed in the electrocardiograms of 100 hypertensive patients upon whom preoperative studies for the Smithwick lumbodorsal sympathectomy were being done The age range 17 to 66 years Blood pressure readings ranged from 270/150 to 160/95 mm Hg

Correlations as outlined in (A) above were also carried out with respect to the electrocardiographic changes in the precordial leads
Tables and Charts

EVANS F Continuous intravenous adrenalin (epinephrine) in spinal anesthesia for control of pressure
Lancet 1 15 17 Jan.1 1944

Whatever the cause of blood pressure fall in spinal analgesia the use of intravenous adrenalin in suitable dilution will control it

Adrenalin is so rapidly oxidized in the body that it has no cumulative action is safe if reasonable care is exercised in setting the speed of the grip Rapid oxidation means immediate and complete control

Adrenalin used in this way adds to the margin of safety for the poor risk patient

EVANS G & OTHERS Discussion management of patients with essential hypertension
Proc.Roy.Soc.Med 40 773 780 Nov.1947

1 Evans G Discussed are etiology of essential hypertension conservative treatment by bed rest drugs caloric restriction and surgical procedure In conclusion it is stated that the difficulties of assessing the value of either intensive medical or surgical treatment was due to the impossibility at present of forecasting the natural course of arteriosclerotic disease in a hypertensive patient

2 Dickson Wright stated that selection is the most important step in the surgical handling of cases of hypertension Indications and contra indications are outlined History of surgical treatment is outlined Resection of adrenal is given brief notice

3 C.H.Syndham Further discussion of sympathectomy emphasizing the effect of sympathectomy on circulatory dynamics

4 H.J.B.Atkins Comment regarding Dickson Wright s remarks

5 Evans Bedford Death in essential hypertension commonly comes from heart failure Natural course of disease is briefly noted and various medical therapeutic measures are considered Indications for surgical treatment are discussed

6 C.H Whittington Ophthalmological considerations are mentioned briefly

7 Dickson Wright Replay to M r.Atkins regarding use of heparin to counteract post operative thromboses

EVANS H Hypertensive encephalopathy in nephritis
Lancet 2 583 588 Sept 9 1933

1 Nine cases of hypertensive encephalopathy in the course of nephritis are reported 7 of these were in cases of acute nephritis

2 The syndrome is quite unrelated to true uremia with which however it is sometimes associated

3 Hypertension is a constant feature but the nature of its relationship to the syndrome is uncertain

4 The more frequent appearance of the syndrome in acute nephritis is perhaps associated with the relatively sudden onset of the vascular changes

5 The treatment of the condition is important It consists essentially in venesection lumbar puncture restriction of fluid intake and morphia With such treatment recovery is the rule in those cases of encephalopathy occurring in the case of acute nephritis

EVANS J A Selection of patients for sympathectomy
Surg Clin.N.America 30 3 p 813 827 June 1950

This is a discussion of the expectations and limitations of sympathectomy which does not remove disease but merely changes the physiology of the circulation and the production of pain

The application of sympathectomy in the field of peripheral vascular disease and in hypertensionis treated Sympathectomies (at Lahey Clinic) are offered to all patients under 55 who have Buerger s Disease or arteriosclerotic peripheral vascular disease and in whom diagno is is certain and when gangrene will not be hastened Sole reliance is made on clinical criteria not by preoperative temperature studies Causalgia or reflex sympathetic dystrophy offers a promising field for sympathectomy A case history to illustrate this is given

The type of operation performed for hypertension at I ahey is the high dorsolumbar sympathectomy The reasons for this and the splanchnicectomy a review of the cases which have been selected for this type of surgery results of the operation and concepts of its present value in the treatment of hypertension are discussed It is stressed that the operation is performed not as a prophylaxis against further development of hypertension but for more compelling reasons Therefore operation is offered only to those patients whose longevity is threatened and whose life expectancy may not be more than 4 to 10 years The operation is urged on patients under 50 years of age with spastic exudative and hemorrhagic retinal arteriolar changes moderate cardiac damage signs of early nephrosclerosis and labile blood pressure
Tables Figures Plates

EVANS J A & BARTELS C C   Results of high dorsolumbar sympathectomy for hypertension
Ann.Int.Me 30 307 329 No 2 Feb 1949

Evaluation of results of operation is based upon a six months to three year follow up of 173 patients who had sympathectomies to include the fourth thoracic level This study of the results of high dorsolumbar sympathectomy from the fourth thoracic to the second or third lumbar ganglions was undertaken in an attempt to ascertain whether a larger number of patients with all types of hypertension were being aided by this operation than by lower sympathetic resection performed in an earlier study The former type of operation is urged on patients under 50 with spastic exudative and hemorrhagic retinal arteriolar changes moderate cardiac damage signs of early nephrosclerosis and labile blood pressure

EVELYN K.A ALEXANDER F & COOPER S.R   Effect of sympathectomy on blood pressure in hypertension a review of 13 years experience of the Massachusetts General Hospital
J Am.M Ass 140 592 602 No 7 June 18 1949

Of 400 patients who underwent sympathectomies at the Massachusetts General Hospital 1935 1947 a homogenous series for follow up purposes was made by excluding non residents of Massachusetts Thus 292 patients were obtained and divided into three groups according to the type of operation performed

(a) 35 patients operated on by supradiaphragmatic route 1935 1938

(b) 223 patients - by Smithwick lumbodorsal procedure March 1939 to May 1946

(c) 34 patients operated on by the surgical members of the Hypertensive Committee of the Massachusetts General Hospital from June 1946 to May 1947 Operation by several different techniques designed to give a more radical resection of the sympathetic trunk than the Smithwick operation

Personal follow-up study was made of 98% of the 219 surviving patients This was done to summarize all the information necessary for an assessment of the effectiveness of sympathectomy in treatment of essential hypertension This report deals only with effect of the operation on blood pressure

Diagrams of typical blood pressure responses to lumbodorsal sympathectomy - data are presented for 100 patients followed for 5 years after operation

Results indicate that at the end of 5 years blood pressure returned to normal in 8% significant reductions (although not to normal) in 13% Results in remaining 79% were unfavorable Comparison of these results with those at the end of a 2 year follow-up shows that results of sympathectomy tend to become less favorable as the length of the follow up period increases

Discussion by Grimson Ayman and Peet
Tables and Charts

EWALT J.R   Neurogenic aspects of hypertension
Dis.Nerv.System 5 330 334 Nov 1944

A general article in which the author outlines the following neurogenic aspects of hypertension

I The Brain (a) intracranial pressure (b) cortical factors (c) the hypothalamus (d) medular centers (e) spinal centers (f) psychic factors

II Peripheral nerves (a) carotid sinus (b) sympathetic system

FABER A   Readings of blood pressure of 1 000 healthy individuals aged 20 to 25 years An anthropometric study
Skandin.Arch f Physiol ,Berl u Leipz xlv 189 201 19 4

The readings of 1 000 strong healthy men aged 20 to 25 years show that blood pressure is subject to great variations in different individuals Clinically this means that 90 to 160 mm may be the normal limits of the blood pressure of healthy individuals

A possible correlation of increased weight with increased blood pressure is discussed

FABER A & MACKEPRANG E   Anthropometric study blood pressure measurements of 1 000 individuals age 20 to 25 years Comparison between two sphygmomanometers (Riva Rocci and Sahli)
Compt rend.Soc de biol Par xci 781-784

A study of the blood pressure readings of 1 000 soldiers aged 20 to 25 years in order to compare the efficiency of the Riva Rocci and Sahli sphygmomanometers

The authors conclude that as far as this study is concerned the two sphygmomanometers proved to be equally efficient from a statistical point of view Furthermore the authors present a conversion formula for determining what a particular reading of one of the sphygmomanometers would be when the reading by the other sphygmomanometer is given

Tables and Charts

FABER H K   Formula expressing general relationship between blood pressure and body weight
Proc.Soc.Exper.Biol & Med 25 77 80 Nov 1927

This study is based on observation of about 1 000 approximately normal children 4 to 15 years of age Mathematical analysis plotting blood pressure against body weight is presented and results in the following formula Y equals AxB or S/D equals A W/B The formula is offered merely as an expression of a general trend

Tables and 1 chart

FABER H.K & JAMES C.A   The range and distribution of blood pressures in normal children clinical application of statistical methods to the interpretation of deviation from the normal average

Am.J.Dis Child Chicago xxii 7 28 1921

A statistical study of blood pressure variations Normal means and standard deviations for systolic diastolic and pulse pressure and for pulse and pulse pressures have been compiled for boys and girls separated by age between the ages of 4 and 16 years

Illustrative examples of the method of measuring deviation in various pathologic states are given Tables Charts

FAHR G   Heart in hypertension

J.A.M.A 105 1396 1400 Nov 2 1935

55% of death rate consequent to essential hypertension is due to heart failure Heart failure of some degree is nearly always present in cases of essential hypertension in which death occurs in uremia or from apoplexy or cerebral softening The heart in hypertension shows left ventricular hypertrophy and dilatation with varying grades of replacement scarring in the muscle Coronary arteriosclerosis is present in 90% of cases The coronary narrowing is responsible for the scars found in the heart muscle

A very high percentage of patients with angina pectoris and coronary arteriosclerosis have high blood pressure complicating the cardiac picture Hypertension and coronary arteriosclerosis are so intimately and frequently associated that they should be considered together and the term hypertensive heart disease or hypertension heart should connote coronary involvement

What has been termed chronic myocarditis is usually the result of high blood pressure and coronary artery disease and not the result of infection

Heart failure in the clinical sense does not develop in hypertension until many years (from 10 to 12) have passed unless the coronary disease accompanying the high blood pressure becomes very severe or unless some other cardiac complication is present Many patients with hypertension live 15 years or more and finally die of one of the other consequences of hypertension though some degree of heart failure may have been present previously or at the time of death

FALK O P.J   Management of heart

South M J 28 915 918 Oct.1935

In the earlier stage of hypertensive disease management must be directed towards the progressively destructive tendencies of the underlying vascular disorders

The author enumerates important aspects of the disease which are in his opinion often overlooked

The early symptoms of impending cardiac breakdown are considered and the therapy of hypertensive heart disease is summarized

(1) Management of the patient before signs and symptoms of cardiac breakdown
(2) Treatment after the development of cardiac disability

FANSON E KINSEY D & PALMER R.S   Potassium sulfocyanate therapy in essential hypertension

New England Jour.Med 229 540 1943

During the past 5 years the authors have followed 100 patients on sulfocyanate therapy for periods varying from a few months to 4 years 62 females 38 males age range 13 to 68 years The drug was administered after careful control period during which all usual therapeutic measures were employed An effort was made to separate the effect of psychotherapy from the action of the drug which was used cautiously and toxic effects kept to a minimum but hypotensive action was not notable Fall to normal or near normal occurred in only 12% of the cases and a sustained fall although by no means to normal levels was obtained in 16%

Symptomatic relief ascribable to potassium sulfocyanate alone was obtained in over half of the patients and the symptom not effectively relieved was headache

Of the patients in the series who did not obtain additional symptomatic relief from potassium sulfocyanate the majority obtained blood cyanate levels of between 8 and 12 mg per 100 cc and frequently higher Hypotensive action occurred in blood cyanate levels of less than 8 mg in slightly over 50% of those showing this reaction Of patients showing no hypotensive action 40% attained blood cyanate levels of 8 mg or more and 18% levels of over 12 mg

One case report is presented which illustrates good therapeutic results

FARBER E.M HINES E.A.JR MONTGOMERY H & CRAIG W.M   Arterioles of skin in essential hypertension

J.Invest.Dermat 9 285 298 Dec 1947

In view of the generally accepted finding that diffuse disturbance of the arterial side of the vascular system exists in hypertension it may be anticipated that lesions would also be found in the cutaneous arteriolar bed but this had not been studied adequately The criterion for determining pathologic changes in the cutaneous arterioles in this study was the wall to lumen ratio determined in groups of hypertensives and normotensives by a Bausch and Lomb micrometer eye piece used on material from the upper arm lumbar region and calf The arterioles of hypertensives were found to have the thicker walls the changes occurring in a large percentage though not in all the arterioles studied Structural changes similar to those found in other organs of hypertensives were discerned in the cutaneous arterioles As between the group in the 3rd to 4th decades and those in the 6th to 7th decades no appreciable differences were noted

Cases of malignant hypertension in general show more profound alteration of arterioles than do other types of hypertension although equally severe qualitative changes were noted in a number of cases of other kinds of hypertension The duration and severity of the hypertension apparently influence the degree of arteriolar change

In 52 normotensives the wall to lumen ratio was 1 2 14 in 70 hypertensives it was 1 1 57 Most common changes were hyperplasia of nuclear element of media and thickening of inner elastic lamina Occasionally complete occlusion of the lumen

FERRIS C.R Management of hypertensive heart failure
J.Missouri M.A 39 70 72 March 1942

Hypertension is the greatest single cause of cardiac symptoms and is the chief cause of heart failure Hypertensive heart disease tends to be a progressive condition leading to congestive heart failure which may be of three types The signs and symptoms of the three types of heart failure are reviewed briefly

The management of patients with heart failure with hypertension is largely symptomatic The author comments upon the use of a modified routine drug therapy and diet and discusses some of the complications and accompanying conditions likely to arise in the course of treatment for hypertensive heart failure

The cold pressor test effects of altitude and climate are mentioned

FERRIS E.B REISER M F STEAD W W & BRUST A A JR Clinical and physiological observations of interrelated mechanisms in arterial hyper tension
Trans Assoc.Amer Phys LXI 97 1948

Data based on the study of the blood pressure responses of 155 patients to tetraethylammonium chloride suggest that there are several basic physiologic patterns that may account for the hypertension in various clinical conditions

In one form elevated pressure seems to be maintained primarily by humoral mechanism in another group urogenic factors seem to play the primary role

There are indications however that many cases of essential hypertension fall somewhere between these two groups with humoral and neurogenic factors having varying degrees of importance

In many instances clinical factors responsible for such fluctuations are not known though in some cases fluctuation may be accounted for by variation in emotional tension and in others it can be induced by shifting sodium chloride and water balance

Charts

FINDLEY T Sympathectomy and the ischemic extremity
Nebraska M.J 34 379 384 No 11 Nov 1949

The author attempts to examine critically the neurosurgical approach to the problem of the ischemic ex tremity in the light of what is known today about the perversions of blood flow through skin bones and muscles

There is a discussion of sympathectomy as applied to the treatment of peripheral vascular diseases and the limitations and virtues of it are pointed out

The author urges that more attention be paid to the psychiatric aspects of vasospastic disease He sug gests sympathetic denervation or a sympathetic protein block as superior to drug therapy in the treatment of acute arterial occlusion What is needed according to him is a conservative method producing vasodilation without increasing the metabolic rate of ischemic tissue

FINDLEY THOMAS Role of the neurohypophysis in the pathogenesis of hypertension and some allied dis orders associated with ageing
Amer.Jour Med pp 70 84 Vol 7 July 1949

The author cites evidence supporting the view that hypo function of the neuro hypophysis may represent a common pathogenetic denominator The present concept follows Hinbecker and additional data deemed relevant are presented

Diminished secretion by this gland results in degeneration of the vasophiles of the interior pituitary and their respective target organs and in a state of increased tissue sensitivity to the combined action of various pressor hormones

Tables

FINE J FRANK H.A & SELIGMAN A.M Traumatic shock incurable by volume replacement therapy sum mary of further studies including observations on hemodynamics intermediary metabolism and therapeutics of shock
Ann.Surg 122 652 662 Oct 1945

In traumatic shock the therapeutic problem is one of restoring normal velocity and volume flow through the capillaries When the disturbance is the result of loss of blood or plasma the problem is solved if a replace ment of the loss is made early enough if the replacement is made too late the problem is not solved by blood or plasma and a state of irreversibility exists i e the organism rapidly deteriorates and dies even after transfusion in adequate volume is given In this phase of the process damage which is irreparable by known therapies exists It is not known whether damage consists in a loss of integrity inherent in the central or peri pheral circulatory apparatus per se or is secondary to the failure of an extravascular controlling factor

Data bearing on this problem are presented under four headings

1 A study of the altered hemodynamics due to viscosity changes
2 An evaluation of existing therapeutic techniques applied only to the irreversible stage of shock
3 An inquiry into certain phases of intermediary metabolism in shock
4 Observations on the effect of viviperfusion of the liver during hemorrhagic shock

Tables

FISCHER R Behavior of blood pressure in mental exertion
Med Klin 26 625 627 April 25 1930

The author studied the blood pressure of 16 chess players who participated in a tournament No significant changes in the blood pressure readings were found either during actual chess game or in between games

Table

FISHBERG A.M Sympathectomy for essential hypertension
J Am.M.Ass 137 670 675 No 8 June 19 1948

119 patients with severe essential hypertension were selected for sympathectomy and followed by the same observer for an average of 32 months There were 4 operative and 16 subsequent deaths The diastolic pressure was reduced 25% or more in 30 patients Worth while symptomatic improvement occurred in 59% Headache was the symptom most often relieved Retinopathy cleared in 12 of patients

It is suggested that the reason why cephalic manifestations (headache retinopathy of hypertension) are the most favorably affected is that sympathectomy results in a redistribution of the cardiac output with a smaller fraction going to the cephalic portionsof the body

FISHBERG A.M Medical progress hypertensive cardiovascular disease
New York M ed 1 17 No 18 Sept 20 1945

It is the purpose of this article to summarize for the general practitioner the present status of some aspects of hypertension which have been recently intensively studied The paper is divided into the following sections

1 Experimental hypertension and arteriolar lesions the author suggests that renal arteriolar lesions are the results of the hypertension as much as the cause insofar as present evidence shows

2 Unilateral nephrectomy for hypertension

3 Sympathectomy for hypertension (A) Results of sympathectomy (B) Indications for sympathectomy It is stressed that sympathectomy is not a curative but only a palliative procedure (C) Contraindications to operation

FISHBERG A.M & OPPENHEIMER B.S Differentiation and significance of certain ophthalmoscopic pictures in hypertensive diseases
Arch.Int.Med 46 901 920 Dec 1930

The authors deal firstly with the three fundamental retinal lesions in hypertension
(1) Retinal arteriosclerosis and arteriosclerotic retinopathy (2) Malignant hypertensive neuroretinitis
(3) Choked disk due to increased intracranial pressure

In 274 cases of hypertensive and renal diseases the ophthalmoscopic observations have been studied in relation to the clinical picture in 39 of these cases postmortem observations were also made

The ophthalmoscopic characteristics of the three types of retinal changes are described and their occurrence and prognostic significance in the individual types of hypertensive disease investigated

In all of the 10 cases of essential hypertension with malignant hypertensive neuroretinitis in which the patients came to necropsy necrosis of the renal arterioles was present On the other hand necrosis of the renal arterioles was absent in 11 instances of essential hypertension without malignant hypertensive neuroretinitis that were studied at necropsy

Instances are described of malignant hypertensive neuroretinitis in a patient with arterial hypertension due to suprarenal tumor and of arteriosclerotic retinopathy accompanying hypertension resulting from amyloid contracted kidney

Three case histories are summarized
Tables

FISHER J.A & HEWER T F Adrenal cortex in essential and renal hypertension
J Path & Bact 59 605 613 Oct 1947

A study was made of the adrenals in 55 cases of essential hypertension 15 cases of renal (post nephritic) hypertension and 57 non hypertensive controls coming to autopsy

In both essential and renal hypertension there was a significant increase in adrenal cortical lipid

The possible significance of these findings in the pathogenesis of essential hypertension is discussed and it is suggested that they mall reflect variation in a single normal process by which the adrenal cortex maintains the glomerular filtrate
Tables

FLAXMAN N Clinical value of digitalis in hypertensive heart failure with normal rate and regular rhythm
Am.J.M.Sc 203 741 747 May 1942

The study of 160 cases of hypertensive heart failure with a normal rate and a regular rhythm is reported The age of the patient and the duration of the symptoms before treatment with digitalis apparently had no influence on the outcome

Of all the hypertensive patients who develop congestive heart failure those with isolated failure of the left ventricle a normal heart rate and a regular rhythm have the best prognosis

Factors over which digitalis itself had no control such as uremia coronary thrombosis and cerebral h morrhage caused 22 (64%) of the 37 deaths in this series of 160 cases

Treatment with digitalis may be regarded as most successful in these decompensated hypertension patients despite the normal rate and the regular rhythm
Tables

FLAXMAN N Clinical value of digitalis in hypertensive heart failure with sinus tachycardia
Am.J.M.Sc 203 747 751 May 1942

The study of 160 cases of hypertensive heart failure with sinus tachycardia is reported 72% male 28% female age ranges 31 to 67 years

1 The cardiac rate is important as a prognostic sign because the mortality among these patients with the exception of A V modal rhythm was the highest of all groups of hypertensives

2 Exempted were those with isolated failure of the left ventricle where the mortality due chiefly to coronary thrombosis was only 11 3% as compared with a mortality of 37 7% among those with the combined type of ventricular failure

3 Congestive heart failure the factor controllable by digitalis was responsible for 34 (69%) of the 49 deaths but all of these were in patients who had the combined type of failure before the treatment was started

4 Digitalis was administered to these hypertensive patients with rapid regular cardiac rhythm not for its action on the rate but to relieve the symptoms and signs of heart failure which it did successfully in 70% of the patients

Tables

FLAXMAN N Hypertensive heart disease of 10 to 20 years duration 11 cases
Ann.Int Med 15 821 828 Nov 1941

It has gradually become recognized that many persons with heart disease may live long and active lives This seems to apply especially to cases of coronary artery and hypertensive disease 11 patients with coronary or hypertensive disease lived for an average of 13 7 years following its diagnosis by the author

The mental adjustment to heart disease is of the utmost importance Especially is this true in hypertensive heart disease

FLAXMAN N Left ventricular failure due to essential hypertension
J Lab & Clin.Med 26 1891 1900 Sept 1941

Isolated failure of the left ventricle due to essential hypertension is reported in 190 patients Dyspnea and cardiac pain alone or combined were the leading symptoms at the onset in 89% of the patients in the other 11% dyspnea was present along with palpitation or weakness Congestive heart failure accounted for only 36 4% of the deceased but the duration of life after the onset of the congestive failure was less than 6 months in each of the 16 patients Coronary thombosis which was the cause of death in 10% of patients with hypertension who died with all types of cardiac failure and in only 6 6% of these with gross arteriosclerosis accounted for 36 4% of the deceased in this series Auricular fibrillation occurred in 38 (20%) of the 190 patients and was the most common arrhythmia and the mortality was lower than in those with regular rhythm due to the absence of coronary thombosis

Tables

FLAXMAN N Distrubances of rate and rhythm in hypertensive heart disease
Arch.Int.Med 65 595 606 March 1940

The study of 243 cases of arrhythmia among 800 cases of hypertensive heart disease is reported The most common arrhythmia was auricular fibrillation it occurred in 198 (81 5%) of the 243 patients

According to the author arrhythmia may occur at any time during the course of hypertensive heart disease and often is the first indication of cardiac involvement

The mortality among patients with arrhythmia was lower than among those with regular sinus rhythm owing to the comparative absence of coronary thrombosis 75% of the patients with auricular fibrillation 66% of those with auricular flutter paroxysmal tachycardia or complete heart block 65% of those with extra systoles and 50% of those with vodal rhythm survived some of them for a considerable number of years Since the arrhythmia often led to myocardial insufficiency if this was not evident already and tended to be permanent treatment with digitalis or guinidine sulfate was necessary

FLAXMAN N Course of hypertensive heart disease in relation to gross arteriosclerosis
Am.J M Sc 195 638 644 May 1938

The course of hypertensive heart disease in 127 patients with gross arteriosclerosis the arteriosclerotic hypertensive group (37% known dead and 63% known living) is reported Of these 84 3% were above 60 years The known duration of the arterial hypertension was from 3 to 22 years with an average of 12 years

When congestive heart failure appeared which was the cause of death in 71% of the deceased patients the duration of life was short less than 6 months in 77% of the deceased A marked decrease in the activity of the patient and the use of digitalis were of considerable aid in delaying the onset of congestive heart failure and death from the time of the appearance of the cardiac symptoms

Tables

FLEXNER J & WRIGHT I.S Autonomic drugs and biliary system changes in liver secretion and their relation to alterations in respiration arterial pressure and portal pressure produced by acetyl b methylcholine chloride (mecholyl) adrenalin and some related compounds
J.Pharmacol & Exper Therap 66 171 181 June 1939

Investigation of the effect of mecholyl on hepatic secretion in an attempt to contribute to the knowledge of the influence of parasympathetic stimulation on liver secretion Results

1 Mecholyl in 0 001 to 1 0 mgm doses intravenously caused first a speeding up and then a lag followed by a resumption of control rate of bile flow in cats

2 Mecholyl in 2 to 5 mgm doses subcutaneously and o 4 to 10 mgm doses intravenously caused a rapid rise in liver secretory pressure followed by a lag of levelling off of intraductal pressure and then a resumption of control rate of increase

3 Benzedrine sulfate in 5 to 10 mgm subcutaneous or intravenous doses causes essentially no change in rate of bile flow or alteration in vascular pressure

4 Mecholyl and histamine cause a drop in arterial blood pressure and rise in arterial pressure fall and then rise in portal pressure and lag in liver secretion

Conclusions

(1) Mecholyl histamine benzedrine sulfate and adrenalin do not directly affect the rate of bile flow the changes in liver secretion noted are apparently related to sudden arterial blood pressure changes

(2) The response of all effective drugs used was diminished when the portal route of aminisstration was employed

Charts

FLIPSE M.E & M.J   Rice fruit diet in hypertension
South.M.J 40 721 728 Sept 1947
A strict rice fruit routine was effective in controlling the blood pressure in 20 of 32 or 62 5% of cases of essential and renal hypertension in ambulatory private patients Weight loss was not a significant factor in the benefits produced by the diet The diet was of benefit in the relief of chronic uremia and marked edema where other treatment has failed Restriction of water was not necessary to obtain benefit 10 of 14 or 71 5% of those benefited by a strict routine maintained the improvement when the diet was modified with meats vegetables and even a small amount of salt The addition of sulphocyanate and other medical treatment was not contra indicated in the treatment of cases on this diet The diet is difficult for patients to follow and many failures result from poor cooperation The harmful effects of the diet are primarily those of starvation in individuals who for various reasons do not take their full caloric requirements and such cases warrant discontinuance of the routine

FLOCKS R.H   Clinical studies on relationship between renal disease renal function and arterial pressure
J Urol 47 602 613 May 1942
The urinary tracts of a series of patients with congenital hydronephrosis infected hydronephrosis renal stone and hypertension were studied by means of flat film pyelonveterogram and phenolsulphonphthalein and urea excretion from the individual kidneys These studies demonstrate that it is possible by simple means to determine the presence of unilateral renal ischemia or unilateral intrinsic renal damage They show that it may be present when renal disease as determined by studies of renal pelvis and kidney outline seem absent and may not be present when marked pathological changes such as extensive pyelonephritis are present It was never demonstrated in patients with normal blood pressure
Tables Illustrations

FLOYD R   Retinal changes in hypertension and in renal disease
Arch Ophth 6 433-444 Sept 1931
The author presents a brief review of knowledge concerning the changes of the eye ground during life retinal lesions after death and the present conception of renal disease and hypertension
He outlined also the pathogenesis of retinal lesions changes in the fundus in hypertension and in renal disease and diagnostic and prognostic significance of changes in the fundus

FOLDES E   Metabolic and nutritional aspects of arterial hypertension
New York State J.Med 47 2699 2702 Dec 15 1947
Report of the administration of anti retentional diet in an effort to reduce the circulatory blood volume The diet was rich in proteins and vitamins and restricted in carbohydrates fats table salt and liquids Eight case reports are presented Results

1 Antiretentional dietary treatment is frequently effective in arterial hypertension
2 Fluctuations in the blood sugar level are followed by fluctuations in the opposite direction in the blood pressure level of the hypertensive diabetic
3 In one case of (nondiabetic) essential hypertension intravenous glucose injections were followed by a drop in the blood pressure

These observations originated from a report and support a theory of arterial hypertension which considers the significance of the circulatory blood volume
Charts

FORSTER R.E   Thiocyanates in arterial hypertension
Am.J.M.Sc 206 668 676 Nov.1943
The author deals with his subject in the following way

1 Review of earlier work
2 Pharmacologic actions of thiocyanate related to its use in arterial hypertension
(a) Pharmacodynamic actions (b) toxic actions
3 Clinical use of thiocyanate in the treatment of arterial hypertension and results
(a) Clinical use (b) results from use of thiocyanates in treatment of hypertension
4 Theories of the hypotensive action of thiocyanate in the hypertensive patient
(a) Decreased cardiac output (b) decreased peripheral resistance (c) decreased blood volume
(d) miscellaneous
5 Conclusions as to the use of thiocyanate in the treatment of hypertension

The majority of clinical workers believes that thiocyanate has a definite hypotensive effect in the arterial hypertensive patient However this hypotensive effect has not been demonstrated in the laboratory The mechanism by which this clinical blood pressure drop occurs is not known It is to be hoped that a complete statistical analysis will be done in the future to prove this suspected hypotensive effect
A satisfactory method for the administration of thiocyanate has been suggested by Barker which will give minimal toxicity if handled correctly Thiocyanate should never be given without blood levels being taken Thiocyanate is not a blanket cure all for hypertension and should be used only in selected cases and where no contraindication exists
Any relief of subjective symptoms bears minimal relation to the blood pressure drop
Extensive bibliography

FOSTER J.H Blood pressure in China and New England
New England J.Med 203 1073 1076 Nov 27 1930

A comparison of diseases seen in a large hospital and dispensary in China with those seen in a hospital and private practice in New England The most conspicuous difference noted between practice in China and in the U.S is the rarity of hypertension in China and its frequency in this country

The discovery of this difference leads the author to a consideration of someof the factors in the etiology of hypertension He concludes that the factors generally mentioned - stature muscular development endo crine gland influences diet and climate - do not seem sufficient to explain the difference A nervous element may be responsible

FOSTER J.H Blood pressure of foreigners in China
Arch Int.Med 40 38 45 July 1927

Observations by the author of the blood pressure of limited samples of foreigners in China are compared with the results of other similar studies reporting blood pressure of Orientals and Occidentals in China and the U.S.A

Conclusions drawn are That the blood pressure of the Chinese has been shown to be lower than the usual averages and hypertension is rare that the blood pressure of a series of Occidentals living in China shows that the average for foreigners is about the same as that of the local Chinese that the blood pressure of the majority of persons studied was lower in China than in America

The author comments on the etiological implications of these findings
Tables and charts

FOULGER J.H & FLEMING A.J Industrial exposure to toxic chemicals scheme for its medical control
J A.M A 117 831 836 Sept 6 1941

The author describes briefly a scheme for medical control of industrial health in chemical industry Their proposals are Three stages in industrial life at which the worker should receive a medical examin ation (a) on applying for work (b) while working (c) when released from employment

In the discussion of the signs of exposure to toxic chemicals the importance of the pulse rate and blood pressure is stressed especially

(1) The use of blood pressure measurements to study exposure to toxic chemicals
(2) The scoring of blood pressure readings
(3) The detection of pending circulatory collapse

FOULGER M P.H & ROSE E Thiocyanate acute goiter during therapy
J A.M.A 122 1072 1073 Aug 14 1943

The sodium and potassium salts of thiocyanate acid had been used intermittently in the treatment of hypertension since 1903 when Pauli discovered their property of lowering blood pressure One of the collateral effects of this treatment is the occasional acute enlargement of the thyroid This is a description of one such case one of the few actual reports of enlargement of the thyroid

A satisfactory explanation has not yet been found for the changes in the thyroid during the administration of thiocyanates Whenever change in thyocyanate function occurs during thiocyanate administration it seems to be in the direction of hypothyroidism Prognosis for the disappearance of goiter in the hyperthyroid phenomena seems to be good following the withdrawal of thiocyanates

The administration of desiccated thyroid and iodines probably facilitates recovery The patient s first attack of enlargement of the thyroid and associated phenomena subsided after the administration of desiccated thyroid substance and iodides despite the continued administration of thiocyanate

FOWLER E F & DeTAKATS G Side effects and complications of sympathectomy for hypertension
Arch of Surg 59 1213 1233 Dec 1949

Some of the undesirable effects of sympathectomy for hypertension are due to postural hypotension com pensatory accentuation of vasomotor tonus of the nondenervated portions of the body and alterations of sensory and motor innervation of the visceral organs

Organic and physiologic changes in the cardiovascular renal and cerebral systems will result in complica tions in a definite percentage of patients subjected to sympathectomy for hypertension

The authors experiences were that severe prolonged and intractable myalgia and neuralgia occurred post operatively in 13% of the cases Hydrothorax hemothorax pneumothorax and atelectasis were encountered in 23% of the cases The postoperative morbidity rate of sympathectomy for hypertension was below 10% and the mortality rate below 1%

FOX R F Arm bath at rising temperature for relief of hypertension
Lancet 1 984 985 April 27 1935

The author outlines briefly the use of baths as a therapeutic measure and quotes the work of Schweninger He writes In other words it is impossible to confine the effect of heat to the part to which it is applied and the same is true to a lesser extent of cold and mechanical stimuli The conclusions reached by Hauffe who made a series of clinical experimental studies of the effects of partial baths on the circulation are discussed

There follows a description of a bath made to the author s design and designed for therapeutic use in cases of hypertension Preliminary observations in cases of vascular hypertension show a fall in both systolic and diastolic pressure after a single bath amounting sometimes to 5 15 mm in the diastolic reading The reduction of pressure is believed to last 2 to 6 hours The local heat causes little or no discomfort but some flusing and general perspiration Pain and breathlessness if present are relieved The author comments It seems to be a safe and effectual method of producing at all events temporarily a general peripheral dilatation He re cognizes such a method as of especial value in the common variety of high blood pressure which shows period ical crises or waves of vascular hypertension and probably also in many chronic conditions (rheumatic and otherwise) with poor circulation angiospasm subnormal temperature Raynaud s disease or chilblains

FRANKE K   Influence of weather on man relation between physiologic changes in blood pressure and changes in barometric pressure
Fortschr d Med 50 509 511 June 24 1932
The author comes to the conclusion that the weather affects the central vaso motor system with the result that the blood pressure changes within certain limits Not only does the blood pressure change but the whole vegatative nervous system reacts to changes in the weather

FRANKE K   Variations in blood pressure as result of climatic influences
Med Klin 25 1868 Dec 6 1929
Observation of essential hypertension and hypertension in kidney diseases showed that 90% had similar daily blood pressure variations The author believes that climatic influences are responsible for this When the atmospheric pressure decreased increase of the blood pressure was noticed in 55% of the patients

FREEDMAN A   Hypertensive vascular disease in industry
Indust Med 11 321 323 July 1942
A discussion of the significance and various methods of blood pressure measurements The author stresses that technical difficulties of blood pressure recording have to be kept in mind
That the elevation of systolic blood pressure alone is not indicative of hypertensive vascular disease
That the finding of hypertensive vascular disease does not in itself put an end to that phase of the examination but should stimulate efforts toward identification of the cause of hypertension
Benign hypertension per se is not an obstacle to employability though it should be remembered that the condition may become progressive and after a longer or shorter period of time may constitute a hazard

FREEDMAN A M & KABAT H   Pressor response to adrenalin in course of traumatic shock
Am J Physiol 130 620 626 Oct 1940
Trauma to a hind limb in which local fluid loss was minimized resulted in fatal shock in 2½ hours Shock was effectively prevented in such experiments by preliminary transection of the upper lumbar spinal cord
Adrenalin produced a greater rise in blood pressure during shock than before trauma except just before death when the response of blood pressure to adrenalin suddenly disappeared
No evidence was found to support the theory that hyper activity of the sympathetic nervous system is responsible for the type of shock resulting primarily from afferent nerve impulses
Tables and Charts

FREEMAN H & CARMICHAEL H T   Pharmacodynamic study of autonomic nervou system in normal men effects of intravenous injections of epinephrine atropine ergotamine (ergot preparation) and physostigmine upon pressure and pulse rate
J Pharmacol & Exper Therap 58 409 416 Dec 1936
A study was made in 24 normal male subjects of the reactions of blood pressure and pulse rate to the intravenous administration of epinephrine atropine physostigmine and ergotamine The administration of all four drugs resulted in a significant rise in systolic blood pressure of varying intensity and duration The diastolic blood pressure also underwent a significant increase with the exception of epinpehrine in case of which pressor and depressor responses were so equally distributed that the net change was negligible
Because of the inconsistency of the reactions to the drugs no diagnostic schema of the status of the autonomic nervous system within the individual could be evolved

FREEMAN H & CARMICHAEL H T   Pharmacodynamic investigation of autonomic nervous system in schizophrenia effect of intravenous injections of epinephrine on blood pressure and pulse rate
Arch Neurol & Psychiat 33 342 352 Feb 1935
An investigation of the reactions of schizophrenic patients to certain drugs that selectively influence the sympathetic or parasympathetic components of the autonomic system The present paper reports reactions to intravenous injection of o o5 mg of epinephrine The blood pressure and heart rate were used as criteria of the responses to this agent
Subjects were 72 schizophrenic male patients chosen on the basis of freedom from detectable organic disease and 24 normal male subjects presumably in good health
The observations are reported with regard to reaction time following injection of epinephrine mean change in systolic and diastolic blood pressures mean increase in pulse rate Correlations were carried out between reaction to epinephrine and rate of oxygen consumption nutritional index sch zophrenic subclass psychiatric status and emptying time of the colon Observations are also made with regard to the relationship between age and total degree of response and that between systolic and diastolic pressures before and after injection of epinephrine Finally the authors report that no characteristic syndrome of autonomic imbalance was found in schizophrenia
Tables and Charts

FREEMAN H & HOSKINS R G   Comparative sensitiveness of schizophrenic and normal subjects to glycerin extract of adrenal cortex
Endocrinology 18 576 582 Sept Oct 1934
A glycerin extract of adrenal cortex was administered to healthy male schizophrenic and to normal subjects in a daily dosage representing approximately 450 grains of cortical substance
In a first series of subjects in which the medication was administered for 2 weeks 2 of 8 normal controls and 8 of 9 patients showed a pressor reaction
In the second series in which the medication was administered for 4 weeks 1 of 9 normal controls and 7 of 10 patients showed a pressor response

Combining the two series 18% of the normal subjects as compared with 79% of the schizophrenic patients showed a pressor reaction

In the first series of patients the mean rise in systolic pressure for the group was 17 mm a statistically significant change

In the first series of normal subjects the mean rise in the systolic pressure for the group was 2 6 mm an insignificant variation

In the second series of patients the mean rise in systolic pressure for the group was 13 8 mm and fo the diastolic pressure 12 02 mm these changes being statistically significant

In the second series of normal subjects there was no change in the systolic blood pressure of the gro p The mean diastolic blood pressure rose 3 73 mm an insignificant variation

FREEMAN H LINDER F.E & HOSKINS R G Glycerin extract of adrenal cortex potent by mouth (on schizophrenic patients) further studies

Endocrinology 17 677-688 Nov Dec 1933

Nine schizophrenic patients have been treated during three periods each with glycerin extract of adrenal cortex Conclusive evidence of the potency of such extract was secured

The dosage varied at different times from an equivalent of 30 grains to 450 grains daily The medication periods were 13 9 and 5 weeks respectively

The systolic blood pressure was increased on an average of 34 24 and 22 mm Hg respectively during the three medication periods There was a slight residual pressor effect maintained during the intervals between medication periods

The diastolic pressure was increased 20 11 and °0 mm Hg respectively in each period

The cardio vascular reactivity of the patients to environmental excitement to change of posture and to exercise was increased during the medication period

The body weight was slightly though significantly increased as was the specific gravity of the urine The pulse and blood cholesterol level seem to have been significantly lowered

Changes in several other functions were suggestive but data not sufficiently numerous to permit accurate judgement

The evidence secured is to the effect that neither maximum effective dosage nor duration was employed

It is concluded that glycerine extract of adrenal cortex is a potent medicament for elevation of blood pressure and for increasing cardiovascular reactivity Other properties demand further investigation
Tables

FREEMAN H LOONEY J.M HOSKINS R G & DYER C G Results of insulin and epinephrine tolerance tests in schizophrenic patients and in normal subjects

Arch.Neurol & Psychiat 49 195-203 Feb 1943

An investigation was made of glycemic and autonomic reactions of 32 schizophrenic and 20 normal men 41% of the patients showed some degree of resistance to insulin The reactions to hypoglycemia were the same in the two groups A lessened reactivity in blood sugar following the injection of epinephrine was noted in the patients In general the normal subjects showed greater changes in the blood pressure and pulse rate paralleling the differences in the blood sugar between the two groups
Charts

FREEMAN N.E & PAGE I.H Hypertension produced by constriction of renal artery in sympathectomized dogs

Am.Heart J 14 405 414 Oct 1937

Complete sympathectomy in seven dogs did not prevent development of hypertension from compression of the renal arteries Hypertension produced by compression of the renal arteries is not mediated through increased peripheral resistance of reflex sympathetic vasomotor origin It is not the result of reflex changes in cardiac activity and is not accounted for by an increased volume of plasma These observations suggest that the known physiological factors which normally control the level of arterial pressure are not etiologically significant in the genesis of experimental hypertension produced by compression of the renal arteries

FREW J L & ROSENHEIM M L The labile neurogenic component of hypertension a comparison of the effects of tetra ethyl ammonium bromide and a rapidly acting barbiturate (seconal)

Clin.Soc Lind 7 217-229 No 3-4 April 1949

This paper presents a comparison of the minimum diastolic pressure readings obtained in a series of hypertensive patients (41) the the use of tetraethylammonium bromide and seconal (a) 30 cases of benign essential hypertension (b) 5 cases of malignant hypertension (c) 5 cases of chronic renal disease (d) 1 case of acute nephritis

Results and Conclusions

1 The minimum diastolic pressures obtained with TEAB and with Seconal in cases of hypertension are practically identical

2 It is suggested that both drugs act upon the neurogenic elements of hypertension though at different levels of the reflex arc

3 Patients in the malignant stage of hypertension show a high minimum diastolic pressure

4 No difference has been detected in the response of patients with essential hypertension and those with hypertension secondary to chronic renal disease to these drugs nut the neurogenic element appears to be of little significance in the hypertension of acute glomerular nephritis
Tables and Charts

FRIEDGOOD H B Ocular manifestations of sympathetic nervous system hyperactivity in essential hyper tension lidspasm new eye sign

Am J M Sc 180 836 848 Dec 1930

1 The history of exophthalmos and the eye signs with which it is often associated are considered from their anatomic physiologic and clinical aspects

2 Clinical study of 494 patients 268 with essential hypertension and 236 with normal blood pressure or hypotension Data presented include

a Age frequency of essential hypertension and eye sign
b Relation of essential hypertension to occurrence of various eye signs
c Way in which eye signs appear and disappear on subsequent examination
d Relative frequency of individual eye sign

3 Broad generalizations suggesting themselves in the course of the investigation are considered and the following statement is made in conclusion There is in existence a syndrome clinically indistinguishable from exophthalmic goiter with the exception of the fact that the basal metabolism is normal It is characterized by various significant combinations of the cardinal and accessory signs and symptoms of Graves syndrome

Tables

FRIEDMAN L & EISENBERG A A Partial (bilateral) adrenalectomy for malignant hypertension

N Y St J Med 37 1131 1138 June 15 1937

Cases with malignant nephrosclerosis i e a primary diffuse vascular disease are discussed Clinically they were young persons ranging in age between 20 and 43 with marked hypertension the average being about 250/150 mm and retinal angiopathy The following observations were made

1 The lesions in the adrenals consist of marked thickening of the capsule and of the trabeculae at times being very pronounced

2 The vessels both in the capsule and in the periadrenal fatty tissue as well as in the muscles and kidneys showed not the ordinary atherosclerotic changes but the thickening of the media which apparently is not inflammatory but due to muscular hypertrophy These apparently are the changes which are referred to as productive endarteritis

Illustrations

FRIEDMAN M Neutralization of angiotonin by normal and by ischemic kidney blood plasma

Proc Soc Exper Biol & Med 47 348 350 June 1941

Evidence is presented which indicates the blood leaving the hemodynamically altered kidney differs from normal blood in its comparative inability to neutralize the pressor action of angiotonin Results of experiments on dogs were as follows

1 There is practically complete neutralization of the angiotonin by the normal systemic blood plasma after an hour s incubation The average pressure rise following the injection of the normal blood plasma angiotonin mixture was 5 mm Hg and only in one experiment was there a significant rise following its injection

2 It was found that ischemic kidney plasma lacked the property of angiotonin neutralization possessed by normal systemic blood plasma for the average rise following the injection of ischemic kidney blood plasma angiotonin mixture was 30 mm Hg This latter rise was comparable to the pressor effect obtained following the injection of angiotonin in saline alone

3 The pressor rise following the injection of the ischemic kidney plasma angiotonin mixture was not due to the pressor property of ischemic kidney blood for the rise following injection of 5 cc of incubated ischemic kidney blood plasma was negligible

In conclusion the author writes The ability of normal systemic blood plasma to neutralize angiotonin is markedly decreased after circulation through the partially ischemic kidney

FRIEDMAN M & KASANIN J S Hypertension in only one of identical twins report of case with consideration of psychosomatic factors

Arch Int Med 72 767-774 Dec 1943

A study of identical twins in only one of whom hypertension and coronary disease were present Each twin was subjected to a routine physical examination a psychological assay an electrocardiographic study and determination of the renal blood flow and of the glomerular filtration rate

The similarity in the heredity and early environment of those identical twins stresses the divergency in personality drives as a possible cause of the hypertension found in one of them

FRIEDMAN B MOSCHKOWITZ L & MARRUS J Unilateral renal disease and renal vascular changes in relation to hypertension in man

J Urol 48 5 15 July 1942

The investigators studied 193 patients in whom nephrectomy was performed for unilateral renal disease Mean blood pressure and incidence of hypertension were greater in this group than in a comparable control series of patients No correlation was noted between the type of renal disease and presence of hypertension Following removal of the diseased kidney the blood pressure level remained essentially unchanged in the majority of patients whether hypertensive or normo intensive before operation 22% of the cases where blood pressure was normal before the operation developed hypertension postoperatively Significant decline in blood pressure was present in only 7% of subjects with hyperten ion before nephrectomy The incidence of hypertension was higher in patients with good excretory function than in a comparable group with poor or absent urine excretion in the diseased kidney

Arteriolar sclerosis was found in diseased kidneys of 82% of the patients with hypertension at time of operation in only 33% of the subjects with normal pressures at the time of operation but who developed hypertension after nephrectomy

When unilateral renal disease and hypertension co-exist removal of the diseased kidney is not likely in the majority of cases to result in reduction of blood pressure Advisability of nephrectomy in most cases should therefore rest primarily on the nature of the renal disease rather than in the expectation of lowering blood pre.sure

FRIEDMAN M SELZER A KREUTZMANN H & SAMPSON J J Changes in blood pressure and in renal blood flow and glomerular filtration rate of hypertensive patients following unilateral nephrectomy

J Clin Investigation 21 19-24 Jan 1942

In this study the renal hemodynamics in hypertensive patients both before and after removal of the diseased kidney together with the blood pressure changes following unilateral nephrectomy are reported.

Total diodrast clearance was reduced in 4 out of 5 patients with unilateral kidney disease with hypertension It was more reduced in the affected kidney than in the normal one

Removal of the diseased kidney was followed by an increase in renal blood flow and in glomerular filtration rate of the remaining kidney in all 5 patients A significant blood pressure in 3 out of 5 patients was noted, but in none was there a complete return of the blood pressure to normal when last examined despite the fact that in 3 of these patients there was no ischemia of the remaining kidney

Tables

FRIEDMAN M SELZER A & ROSENBLUM H Renal blood flow in hypertension as determined in patients with variable with early and with long standing hypertension (clearance of inulin and diodrast iodine preparation)

J A M.A 117 92-95 July 12 1941

The diodrast and inulin clearance tests were performed on a series of patients with hypertension of varying degree and duration In the great majority of cases of essential hypertension the effective renal blood flow was found to be moderately reduced although glomerular filtration was not materially diminished There is a correlation between the level of the diastolic blood pressure the rate of renal blood flow and the filtration fraction

Tables

FRIEDMAN M SUGARMEN H & SELZER A Relationship of renal blood pressure and blood flow to production of experimental hypertension

Am.J Physiol 134 493-502 Oct 1941

Hypertension was produced in 4 of 5 dogs by moderate constriction of the aorta above the renal artery orifice However no ischemia was observed either immediately after the constriction of the aorta or 3 days later when a systemic hypertension was present

From these observations the authors suggest that renal ischemia is neither the initiating nor the maintaining factor in experimental hypertension

It is highly probable that renal ischemic in experimental hypertension of this kind is not only a secondary phenomenon but may even be absent if thr systemic pressure rises high enough to overcome the increased glomerular efferent arteriolar spasm produced by the humoral substance of the deranged kidney

Tables

FRIEDMANN B & PRINZMETAL M Vasomotor effects of blood in patients with hypertension

Proc.Soc.Exper.Biol & Med 34 543 545 May 1936

The report of an experiment in which denervated rabbit s ear preparation (Pissemski and Katz) was used to compare the pressor effect of blood of persons with hypertension and subjects with normal blood pressures 18 patients with hypertension were studied 8 with benign hypertension 2 with malignant hypertension 7 in various stages of glomerulo nephritis 1 with polycystic kidney disease

In 16 cases there was a depressor or no effect of the blood from the hypertensive subject over that from the individual with normal blood pressure Addition to the test plasma of minute amounts of known pressor substances such as epinephrin and pitressin was followed by well defined pressor response

Three patients with acute glomerular nephritis were studied during different phases of their disease

The total evidence does not favor the existence of a direct peripherally acting circulating pressor substance in hypertension If as is likely in renal hypertension a humoral substance exists which is responsible for the hypertension it is not like epinephrin pitressin or other substances having a direct pressor effect so as to be detected by this method

Table

FRIEDMAN B SOMKIN E & OPPENDHEIMER E T Relation of renin (kidney preparation) to adrenal gland

Am.J Physiol 128 481 487 Feb.1940

The concentration of renin in the kidneys of cats was not reduced by adrenalectomy

Following the removal of adrenal glands in dogs there was a general diminution in response to renin This was restored in part by a substitution of adrenal cortical hormone

The results suggest an explanation for the effects observed after ablation of the adrenal glands in animals with experimental renal hypertension and lends support to the hypothesis that renin is intimately concerned in the mechanism of this type of hypertension

Tables Charts

FUJIKI S & KUSHIMA T Relationship of diencephalon body temperature and blood pressure
Jap.J.N.Sc VIII Int.Med Pediat & Psychiat 5 92*-93* Dec 1938

The study has been performed on rabbits subjected to various physio-chemical experiments regarding body temperature and blood pressure

The first part of the study refers to the relationship between the different parts of the central nervous system and body temperature

The second part of the study refers to the alteration of blood pressure in the experimental animals

GAGER L T Incidence and management of hypertension with note on sulphocyanate (thiocyanate) therapy
J.A.M.A 90 82 86 1928

A study of 2 000 patients equally divided between the sexes studied consecutively as admitted to the Department of General Medicine Cornell University The incidence of systolic and diastolic hypertension by sex and age groups is shown

Management of hypertension requires consideration of the patient as a whole his constitution personality and background of heredity and environment The study is reported of 35 patients with essential hypertension 25 of whom were observed over periods of from 2 to 6 months The results of sulphocyanate therapy were almost uniformly satisfactory when the patients were cooperative and the physical obstacles to be overcome were not too great The author feels however that it does not supplant any of the fundamental hygienic and dietary measures for the control of hypertension

GALDSTON M & STEELE J.M Arterial pressure pulse waves in a patient with coarctation of the aorta
Am.J.Physiol 152 554 556 No.3 March 1 1948

Studies of arterial pulse pressure waves in patients with co arctation of the aorta recorded by means of Hamilton intra arterial manometers in arteries of the upper and lower extremities have clearly indicated that the diastolic pressure is about the same above and below the coarctation the systolic pressure is higher above the coarctation and that the femoral pulse lags about 0 1 second behind the radial pulse (1 2)
Graph

GAMBILL E.E Diurnal and seasonal variation of blood pressure in arm and thigh of man
Proc.Staff Meet ,Mayo Clin 19 155-158 March 22 1944

In previous studies it was found that experimental engorgement or congestion of an extremity often tends to increase the diastolic blood pressure in that extremity Because of the observation it was felt that it would be interesting to observe whether the blood pressure taken in the arm and thigh in the morning before getting out of bed and the blood pressure taken at night just before retiring differ significantly

During the summer the diastolic blood pressure of the arm and thigh was invariably higher in the morning than in the evening

During the winter the diastolic blood pressure in the leg was always higher in the morning than in the evening by an average of 16 mm whereas the diastolic blood pressure in the arm was higher in the morning than in the evening in only 66% of the readings

The tendency in the summer was for the systolic blood pressure to be higher in the arm and thigh in the morning than in the evening During the winter the systolic blood pressure was much the same in the morning and evening

GAMBILL E.E HINES E.A.JR & ADSON A W Circulation in man in certain postures before and after extensive sympathectomy for essential hypertension effect of certain mechanical agents and apredrinol (veritol) on blood pressure and pulse rate
Am.Heart J 27 381 395 March 1944

Continuation of a study on 10 patients 7 male and 3 female age range 25 to 57 years average age 39 6 years 7 patients had hypertension group 2 and 3 hypertension group 3 (Keith Wagener and Barker)

This section of the study was concerned with modifications of blood pressure and pulse rate by (1) A tight abdominal binder (2) Bilaterally inflated cuffs around the thighs (3) An abdominal binder plus cuffs around the thighs (4) Exercise of the legs and (5) The administration of paredrinol sulphate The blood pressure raising effects of some of these agents were compared to similar effects of the cold pressor test Each study was done before and after extensive sympathectomy and in most instances while the patients were in the horizontal and in the 60 degree head up postures

Detailed observations are presented
Tables Charts

GAMBILL E.E HINES E.A.JR & ADSON A W Circulation in man in certain postures before and after ex tensive sympathectomy for essential hypertension physio logic aspects
Am.Heart J 27 360 380 March 1944

The authors purpose was to study the physiologic effects of sympathectomy and its effect with change of body posture Studies were directed towards the effect of the horizontal and the 60 degree head up postures on pulse rate blood pressure pulse pressure differential blood pressure response to the Flack test and cardiac output before and after extensive sympathectomy in 10 cases of essential hypertension In add tion the circula tion time and the response to the cold pressor test were studied while the patients were in the 60 degree head up posture and the volume of the leg while they were standing erect

7 patients were men 3 women age range 25 to 57 years average age 39 6 years 7 patients had hyper tension group 2 and 3 hypertension group 3 (Keith Wagener and Barker)

Detailed observations are presented
Tables and Charts

GARAI O   Immersion as factor in development of hypertension (in survivors of shipwreck)
Brit.Heart J 7 200 206 Oct 1945

The working hypothesis of this study was that as a result of exposure to cold for abnormally prolonged periods under circumstances increasing heat loss to an unusual extent there is a reflex vasoconstriction of renal vessels which if prolonged sufficiently, will produce damage to the kidney Such exposure may bring about changes in the kidney so that in future it is hypersensitive to cold stimuli applied externally or that the cycle of events leading to production of pressor substances may be initiated

A group of 15 physically fit merchant seamen all of whom had been immersed, were examined in order of admission To act as controls a group of non immersed neurotic men and a group of non immersed non neurotic men were also tested in the same manner Tests used were practically identical with the cold pressor test of Hines and Brown

The Merchant Navy men were noticed to show a high incidence of raised blood pressure Their response to standard cold pressor test is shown to be different from that of the two control groups The results are analyzed statistically and there is seen to be a significant difference between the three groups Analysis shows this difference to be associated with the factor of immersion The possible significance of this difference is discussed in its relation to hypertension

Tables

GARDNER E L   A clinical and laboratory study of hypertension
Minnesota Med St Paul vi 436-442 1923

A statistical analysis of hypertension The author discusses
(1) Age and sex (2) Family history (3) Weight (4) Previous diseases (5) Diet (6) Urine
(7) Blood chemistry (8) Basal metabolism (9) Clinical observations

The conclusions are that hypertension occurs mostly after 40 yearsof age Men and women are equally affected A definite family predisposition has been established The majority of the patients show evidence of disturbed metabolism over weight and a tendency to retention by the kidneys although this may be secondary to the arterial thickening

GARNER, J.R   Hyperpiesis and respiration
Indust.Med 6 406 409 July 1937

The relationship between respiration and blood pressure has been investigated with the unanimous conclusion that inspiration and expiration both exert a marked effect on the circulation and particularly as regards blood pressure

Deep breathing by its inspiratory effort tends to increase the storage capacity of the capillary bed in the lungs resulting in a reduction in the quantity of blood passing into the aorta with each systole Reduction of blood pressure consequently ensues The author cites supporting evidence from the literature

Unfortunately all pharmacopeial aids at our command are merely transient in their action and hence can afford only momentary relief The physiological therapy of increasing the blood storage depot in the lung capillaries is not of this nature

Slouched posture so evident among sedentary workers decreases lung capacity including the blood depot The author presents a table showing the definite average lung capacity when slouched to be 39 cubic inches less than when seated erectly A further table is presented showing the comparative blood pressure readings made in both the erect and the slouched postures of 100 subjects with ages varying from 21 to 68 years The author believes there is indication that the change in lung capacity was responsible for the increases in blood pressure in at least some of the cases listed in the former table

GARNER J.R   Blood pressure as affected by improper posture
Internat.J.Med & Surg 46 535 Nov 1933

Consideration is given to a special study conducted over a period of nearly 3 years in an effort to determine what if any effect was produced by improper posture upon the blood pressure readings of persons in the prime of life and business activity who presented no discoverable pathologic etiologic findings to account for the hypertension

100 subjects were studied the only selective factor being lack of physical ailment aged 21 to 68 years average age 40 65 years

With assumption of slouched posture in 92 cases there was noted increase in both systolic and diastolic pressures 98% of the entire series exhibited increase in either one or both readings

The condition of the internal organs and vessels in the slouched position combine in the formation of an increased mechanical resistance to the flow of the blood while embarrassing and placing a greater strain upon the heart itself Hence the noted increase in blood pressure

Another factor entering into the manifestation of increased blood pressure by persons occupying a slouched posture while at their work is the disturbed elimination produced by the pressure of the abdominal viscera upon each other resulting in an intestinal stasis productive of a chronic autointoxication which is also assigned as a causative factor in the production of hypertension

Tables

GARVIN C F   Functional aortic insufficiency
Ann.Int.Med XIII 1799 1940

A survey of 200 consecutive autopsied cases of hypertensive heart disease discloses 14 cases in which a diastolic murmur was heard at the base of the heart The finding led to varying degrees of difficulty in clinical interpretation In 4 cases a frank error in etiological diagnosis was made At autopsy the heart in these cases was dilated but showed perfectly normal valves The pathological findings permitted no other conclusion than that the aortic insufficiency noted in life was functional and not due to anatomical changes in the valve leaflets

GEER W.A & DRAGSTEDT L.R Renal hypertension effect of deviating urine into blood stream and intestines of dogs

Ann.Surg 108 263 270 Aug.1938

After reviewing theories concerning the pathogenesis of renal hypertension the authors state There remains the possibility that some chemical substance is absorbed from the ischemic kidney and that this exerts a pressor effect upon the endings of the vasoconstrictor nerves or directly upon the blood vessels Such a substance might conceivably appear in the blood stream as a result of normal metabolic processes and fail to be adequately execreted by the damaged kidneys or it might be produced locally by the ischemic organs

As a result of their experiments the authors found that dogs in which a chronic partial reabsorption of ureine has been produced by draining the urine from both kidneys into the terminal ileum do not exhibit an elevation of arterial blood pressure The continued deviation of the urine from one kidney into the blood stream does not produce toxic symptoms or changes in the blood pressure

These experiments therefore do not support the theory of a specific nephrogenic toxin as suggested by Bruecbe and others

GEILL, T & SECHER K : Condition of heart in obesity

Acta med.Scandinav 87 454-458 1936

A report on a study of the heart changes in cases of obesity and hypertension The author found many cases of obesity without hypertension However those cases of hypertension and obesity show an increase in the death rate This condition leads to a degeneration of the myocardium.

GELL C.F Postural changes in standing pressure affecting aviation circulatory efficiency rating

U.S.Nav.M.Bull 41 48 52 Jan.1943

Report of the effects the changes in blood pressure caused by varying the position of the arm when standing blood pressures were taken had on the ultimate score of the circulatory efficiency test Subjects were 50 applicants for flight training Results

1. When blood pressures are taken with the subject in an erect position an increase in the systolic and diastolic pressures will generally be manifested as the arm is lowered from the horizontal to the pendant position

2 This variation was great enough to change the scores in 43 of 50 routine circulatory efficiency ratings when the standing blood pressure was taken first with the arm horizontal or above the level of the heart second with arm at level of heart third with arm pendant

3 Sixteen borderline subjects failed to pass the test when the standing systolic blood pressure taken with arm horizontal was considered but passed when arm was held at level of heart or in the pendent position

The author recommends a standard position for the arm should be maintained when standing blood pressure is taken for the circulatory efficiency test The position of the arm held at heart level appears most satisfactory

Tables

GELLHORN E DARROW C W & YESINICK, L Effect of blood pressure on autonomic nervous system

Proc.Soc.Exper.Biol.& Med 43 236 240 Feb.1940

Report of studies of the autonomic and somatic nervous system in the cat

1. Observations indicate that a rise in blood pressure produces parasympathetic excitation and sympathetic inhibition, whereas a fall in blood pressure has the opposite results

2 The effects produced by variations of blood pressure are still present after bilateral vagotomy and denervation of the carotid sinuses

3 The effects of variations of blood pressure are not restricted to the visceral nervous system but extend to the somatic nervous system inasmuch as increase in blood pressure is associated with decreased somatic excitability and decrease in pressure is associated with increased somatic excitability

Photographic illustrations

GELLHORN E., INGRAHAM R C & MOLDAVSKY L. Influence of hypoglycemia on sensitivity of central nervous system to oxygen want

J.Neurophsiol 1.301 312 July 1938

The authors discuss the following

1. Augmentation of blood pressure response to oxygen deficiency during hypoglycemia and its diminution by glucose

2 The reversal of the blood pressure response to low oxygen tension in hypoglycemia by different monosaccharides

3 Observations on respiration

4 Ionic changes in the blood during insulin hypoglycemia

GELMANN J Blood pressure in relation to age and occupation

Ztschr.f.kl.n.Med 106-312 319 1927

The data were collected from the records of about 4 000 individuals

Occupational groups of the same age performing work of different physical intensity also show different hypertonic conditions Individuals performing heavy physical work show greater hypertonic symptoms than those performing white collar jobs

GHRIST D G Variations in pulse and blood pressure with change of posture
Proc.Staff Meet Mayo Clin 5 272-274 Sept 24 1930

In the course of interrupted passive changes from recumbency to the erect position estimations of average normal response were made Normal subjects were 23 females 17 males average age 27 2 years Systolic blood pressure remained relatively unchanged diastolic blood pressure rose 12 mm mercury and the pulse rate rose 15 beats each minute It was found that in individual normal subjects the readings may vary considerably above and below these average reactions but no pertinent fall of diastolic blood pressure took place in any of the subjects tested

The patients studied by this postural test were grouped according to symptoms disease diagnosed and reactions of their diastolic blood pressure Detailed observations are presented with regard to the various groupings of patients A short discussion concludes the paper

GIBBES J.H Analysis of 100 cases of hypertension
South M.J Birmingham xix 413 416

The author comes to the following conclusions

1 Hypertension is a disease of middle life and beyond the average age of 100 patients being 53 years
2 Heredity plays a prominent part
3 The practical omnipresence of focal infections and the improvement associated with their elimination suggest a contributing responsibility of these infections to hypertension

(1) A diastolic pressure above 100 gives a bad outlook
(2) A phtalein output below 40% is unfavorable
(3) Patients with enlarged hearts do not improve readily
(4) Adiposity increases the gravity of hypertension

Tables

GIBBONS T.B Behavior of venous pressure during various stages of chronic congestive heart failure
Am.Heart J 35 553 566 April 1948

Daily determinations of weight and venous pressure were made during 34 significant changes in the stages of chronic congestive heart failure in 23 patients

In general the venous pressure and the weight varied concordantly In some patients either weight or venous pressure began changing prior to the other

It is not established that an elevation in either weight or venous pressure need precede the other in the development of the syndrome of chronic congestive heart failure and that depending on the condition of the tissues either of the two might evidence chronically detectable rise prior to the other

Tables and Charts

GLENN F CHILD C G & HEUER G.J Hypertension experimentally produced by constricting artery of *single transplanted kidney additional observations*
Ann.Surg 107 618 620 April 1938

Hypertension produced in three dogs by constricting the artery of a single transplanted kidney appeared at first to be transient Within two months after the application of a clamp however the blood pressure rose to a definitely hypertensive level and remained there as long as the observations were continued

Charts

GLENN F CHILD C G & PAGE I.H Effect of destruction of spinal cord on hypertension artificially produced in dogs
Am.J Physiol 122 506 510 May 1938

Report of a series of experiments performed to determine if possible the various factors concerned in the development of essential hypertension Spinal cords of small series of dogs (5) in which hypertension had been produced by the method of Goldblatt were destroyed below a certain level

The effects of the destruction of the cord are reported together with a summary of the clinical and pathological findings

The authors write These experiments have shown that destruction of the cord below the 5th cervical vertebra produces an immediate sharp fall in the systolic blood pressure which is followed by a rise to above the normal but never to the hypertensive level

Charts

GLOMSET D.J Hereditary hypertension
J.Iowa M.Soc 21 220 222 May 1931

The author took the blood pressure readings on 2 400 high school children and obtained the following results

39% of children with high blood pressure knew of high blood pressure in their families while only 10% of children without high blood pressure knew of high blood pressure in theirs According to the writer it will appear that the underlying cause of high blood pressure is transmitted as a Mendelian trait and for this reason he suggests the term hereditary hypertension for the disease which now generally goes under the name of essential hypertension

GOBER O F Hypertension in railway employees
Texas State J.Med 28 36 38 May 1932

A discussion of the blood pressure readings which would disqualify a railway employee for work

A committee on hypertension recommended a maximum of 175 mm systolic and 100 diastolic in railway employees and believes that an in crease *above these figures is an indication for* disqualification from service However the nature of work performed does not always necessitate a dismissal of the employee with hypertension

GOERNER A & HALEY F.L Nature of depressor substance in hepatic extract
J.Lab & Clin.Med 14 1047 1049 Aug.1929

Details of the method of preparation of the liver extract involved are presented together with methods of investigation used to ascertain the chemical nature of the extract

As a result of the investigation the authors believe that the depressor substance in liver extract is mono potassium dihydrogen phosphate with possibly traces of other potassium salts aiding this action It would also seem that the potassium ion is the active depressor agent since other phosphates fail to cause depression and other potassium salts react positively

GOLD L Mental characteristics associated with essential hypertension
Psychiatric Quart 17 364-371 April 1943

A study of the personality traits in 10 patients in Willard State Hospital with essential hypertension Determination was made of various aspects of the personality and these are summarized in a personality description The author states Correlation revealed that in a given individual the emotional reaction and thought content present at the time of the onset of the psychosis were similar to the emotional reaction and thought content noted when the arterial tension rose

Four case reports are presented

GOLDBLATT H Pathogenesis of experimental hypertension due to renal ischemia
Ann.Int.Med 11 69 103 July 1937

The mechanism whereby the kidneys produce their effect is still regarded as unsolved even by those who consider that these organs can play a primary part in the origin of hypertension

Many experiments have been performed to determine whether the kidneys can be the primary site of origin of hypertension in animals A summary of experiments designed to determine possible renal origin of hypertension is given

The results of the experiments that have been performed up to the present time on the pathogenesis of hypertension due to renal ischemia indicate that the mechanism of the development of this type of hypertension is primarily a humoral one of renal origin

Persistent hypertension has been produced in animals (dog and monkey) by constricting the main renal arteries which reduces the blood flow to the functioning components of the kidneys (renal ischemia)

Hypertension without or with disturbance of renal function resembling in this respect the benign and malignant types respectively in man can be produced by varying the degree of constriction of the renal arteries

The results of various experiments indicate that this type of experimental hypertension is due primarily to a humoral and not to a nervous mechanism initiated by the ischemia of the kidneys

The nature of the effective substance responsible for increasing the hypertension has not yet been elucidated The present indication is that adrenal cortical hormone plays a part in conjunction with hypothetical effective substance of renal origin in the pathogenesis of hypertension due to constriction of main renal arteries
Tables

GOLDBLATT H BRADEN S KAHN J.R & HOYT W.A Experimental hypertension effect of hypophysectomy on renal hypertension
J.Mt.Sinai Hosp 8 579 584 Jan Feb 1942

In agreement with Page and Sweet it has been shown that total hypophysectomy does not prevent the development of experimental renal hypertension and that it tends to lower slightly the pressure of normal animals In the hypophysectomized animals that did not develop renal excretory insufficiency (benign phase) the hypertension stayed at high levels for a long time The malignant phase of this type of hypertension was also observed in an animal that had been completely hypophysectomized This ruled out the pituitary hormones as playing a significant part in the pathogenesis of the arteriolar lesions seen in organs of animals in the malignant phase

The effect of any surgical procedure including hypophysectomy must always be evaluated with caution because even without treatment there is a tendency in some hypertensive animals for the pressure to reach low levels It is felt to be more significant therefore that experimental renal hypertension is shown not to be prevented by hypophysectomy than that hypophysectomy has had an effect on previously hypertensive animals

The results of this study lend no support to the view that the hypophysis plays a significant part in the pathogenesis of experimental hypertension due to constriction of the main renal arteries or of any similar type of human hypertension and offer no justification for surgical or other interference with the integrity of the pituitary body in attempting to treat any type of human hypertension resembling experimental hypertension of renal origin
Tables and Charts

GOLDBLATT H GROSS J & HANZAL R F Experimental hypertension effect of resection of splanchnic nerves on renal hypertension
J.Exper.Med 65 233 241 Feb 1937

The original purpose of this investigation was to determine whether a complete sympathectomy would prevent or cure the type of experimental renal hypertension which can be produced in normal dogs by partial clamping of the renal arteries

Excision of the thoracic portion of the splanchnic nerves and the lower four dorsal sympathetic ganglia on both sides failed to prevent cure or permanently lower the development of persistent hypertension which in dogs follows the production of renal ischemia by partial clamping of the renal arteries

Although results of this investigation failed to give experimental support to the operation that is being practiced on human beings with hypertension yet they do not necessarily controvert the reports of beneficial effects in some cases of human hypertension Further study of the effects on man are necessary before the results of this operation can be accurately evaluated
Tables

GOLDBLATT H KAHN J.R & LEWIS H.A Experimental observations on treatment of hypertension
J.A.M.A 119 1192-1201 Aug 1942

This is an evaluation of various forms of treatment both surgical and medical tested on animals with experimental hypertension

Surgical treatment operations in the nervous system excisions of a single diseased kidney and surgical production of collateral renal circulation

Medical treatment Pentothal sodium Pentobarbital sodium Chloralosane (orthochloralose) Morphine Nitrites (amyl nitrite glyceryl trinitrate potassium thiocyanate) Mannitol Hexanitrate Viscum Album Allium Sativum Extract of watermelon seed Sodium bromide Veratrum Viride Acetyl choline Cholin Chloride Sodium chloride Nicotinic acid Biotin (Vitamin H)

All of the above listed substances many of them used at some time or still being used in treatment of human hypertension had no significant effect on the blood pressure when administered to dogs with experimental renal hypertension Renal extracts either of preparation by these researchers or with similar ones of other investigators, showed either no effect or at most inconsistent and not very striking lowering of the blood pressure of dogs with experimental renal hypertension The only benefit to be expected from this type of treatment is from persistent administration of the renal extract with repeated effect on the mechanism of formation the destruction or the neutralization of the pressor substance or its precursors Much more needs to be learned about the nature and mode of action of the substance or substances before they are made available for general use Results so far in experimental renal hypertension in dogs and rats do not yet justify much optimism about the possible fficacy of such treatment for human hypertension

GOLDBLATT H & WARTMAN W.B Effect of section of anterior spinal nerve roots on experimental hypertension due to renal ischemia
J.Exper.Med 66 527-534 Nov 1937

The section of the anterior spinal nerve roots from the sixth thoraic to the second lumbar inclusive did not prevent or significantly and permanently reduce hypertension produced by constricting the main renal arteries of dogs The significance of these results for the pathogenesis of human and experimental hypertension is discussed

GOLDEN, A DEXTER L & WEISS S Vascular disease following toxemia of pregnancy pre eclampsia and eclampsia clinical course
Arch.Int.Med 72 301-319 Sept.1943

This is an attempt to describe in detail the clinical course of persistent hypertension following toxemia of pregnancy The study is confined to cases in which toxemia of pregnancy was imposed on previously normal cardiovascular renal system The work is summarized under the following headings

1 Definition of Toxemia of Pregnancy
2 Criteria for the diagnosis of toxemia of pregnancy
3 Factors influencing the development of permanent postpartum vascular disease
4 Early stages of post toxemic hypertension
5 Course of post toxemic hypertension

The importance o recognizing patients with post toxemic hypertension lies in its prevention The late vascular effects of toxemia may be prevented by interrupting pregnancy before the hypertension and albuminuria of toxemia have lasted for more than 3 weeks This applies as much to mild as to severe toxemia Tables Graphs Plates

GOLDMAN M.L & SCHROEDER H.A The immediate pressor effect of desoxycorticosterone acetate in hypertensive and normotensive subjects
Federation Proc ,Balt 7 41 No 1 Pt 1 March 1948

Attempts were made to investigate the immediate effects in man of the intravenous injection of certain steroid compounds onthe arterial pressure Blood pressure was measured by a Hamilton optical manometer blood content of the ear estimated by a photo-electric plethysmograph and cardiac output by the ballistocardiogram

The intravenous injection of 5 mm of desoxycorticosterone acetate was followed by significant elevations of the blood pressure in hypertensive individuals The responses observed lasted up to 30 minitus after injections Similar effects did not occur in most normal individuals Cardiac output venous pressure blood content of the ear or electrocardiogram were not altered

The effects of other steroids compounds are being studied among them progesterone was found to have a similar although less powerful action

From these results it appears that desoxycorticosterone acetate can act as a pressor substance in some hypertensive individuals

GOLDMAN M.L & SCHROEDER H.A Immediate pressor effect of desoxycorticosterone acetate (adrenal preparation)
Science 107 272 273 March 12 1948

An investigation to determine whether substances similar to adrenal cortical hormones had a direct vascular action 5 mg desoxycorticosterone acetate (DCA) dissolved in 2.5 cc of propylene glycol was injected intravenously into 5 normal subjects and 5 suffering from arterial hypertension

Injection of propylene glycol alone did not affect blood pressure except in one instance where its administration was accompanied by pain. The injection of DCA in the same quantity of propylene glycol was followed shortly by significant rise in arterial pressure in hypertensive individuals Effect on blood pressure of normal subjects was slight or absent

No significant changes were observed in venous pressure or in the volume of blood in the ear No significant differences in cardiac output were observed after injection of DCA

Responses obtained were prolonged lasting for duration of experiment

From these results it can be concluded that DCA when administered intravenously acts as a pressor substance on hypertensive individuals

GOLDRING W Consideration of human hypertension with respect to its renal origin
Am.J.Med 4 875 885 June 1948

Good therapeutic effect in essential hypertension has been claimed for many diverse methods The conclusion is that none is adequate

There appears to be a distinct division of opinion among those who believe that alleviation of subjective symptoms is a desirable objective and those who believe that lowering of the blood pressure is a more desirable objective

Ultimate goal of symptomatic measures is relief of subjective symptoms the lowering of the blood pressure level being of secondary importance While relief of subjective symptoms may completely rehabilitate a hypertensive patient mere lowering of the blood pressure level without relief of symptom serves no such purpose

Perhaps the most valuable single device in rehabilitation of the hypertensive patient is psychotherapy

Apart from elimination of the cause of the disease it would appear that the main objective of treatment should be to retard or prevent development of vascular disease which is the ultimate cause of disability and death No significant progress has been made in this direction

Final treatment will come only when the causative mechanism of human hypertension is discovered and specific measures are devised for its elimination

Except for the rare instance of pheochromocytoma of the adrenal and unilateral renal disease hypertension is not curable

GOLDRING W : Management of hypertension (with special reference to thiocyanate and its toxicity)
Bull.New York Acad.Med 19 317-339 May 1943

Report of a study designed to investigate the effect of thiocyanate in hypertension among ward patients 44 ambulatory and 25 hospitalized, age range 29 to 65 years Results are presented in summary tables

Follow up observations were carried out on 14 patients in whom the blood pressure was effectively lowered by thiocyanate The clinical usefulness of various dosages of thyocyanate excretion rate of thiocyanate in various groups of patients are discussed There is a possibility of either toxic or therapeutic results in the administration of thiocyanate Two cases in which thiocyanate poisoning occurred are considered in detail

The history of surgical treatment beginning with Danielopolu is reviewed and the present status of this form of therapy is evaluated

The thesis that human essential hypertension is based on renal ischemia is discussed together with relevant researches and consideration is given to the surgical procedure of nephrectomy the antipressor effect of renal extract and the process of desmination.

GOLDRING W., CHASIS H RANGES H.A & SMITH H W : Effective renal blood flow in subjects with essential hypertension
J Clin.Investigation 20 637 653 Nov 1941

Sixty subjects with essential hypertension were examined for filtration rate (C_{in}) diodrast clearance (C_D) maximal rate of tubular excretion (T_{mD}) An extreme reduction T_{mD} occurs in advanced states of the disease for the entire group the T_{mD} is below or in the lower normal range It is inferred that the disease is characterized by a progressive impairment of tubular function which proceeds at varying pace in different subjects The effective blood flow per unit of functional tubular tissue or the ratio C_D/T_{mD} ranges downward from the mean normal to highly subnormal values indicative relative renal ischemia There is no evidence in this investigation to warrant the conclusion that renal ischemia is the primary cause of essential hypertension The renal ischemia demonstrated here appears to be one of the sequelae of the hypertensive process The authors believe that primary renal ischemia can under proper quantitative circumstances initiate a hypertensive process but whether or not the secondary ischemia associated with efferent hypertonus which is present in hypertensive subjects generally contributes to the progress of the disease cannot be answered from this study
Tables

GOLDZIEHER M.A & SALMOVITZ S Endocrine aspects of blood pressure
J Clin.Endocrinol 3 37-40 Jan.1943

The relationship between blood pressure and various endocrinopathies is reviewed. Disturbances of salt and water metabolism are demonstrable in the diseases reviewed and show a co incidence of hypotension and the loss of salt and water on the one hand and of hypertension and retention of salt and water on the other

The results of the study of a series of 100 hypertensive patients are presented The data demonstrate the association of salt and water retention and hypertension in the endocrine patients Increased values for red blood cells and chlorides were also obtained

Treatment of these patients with dietary and medicinal methods aimed at relief of the retention phenomena produced a considerable drop in blood pressure which was maintained during the prolonged period of observation The clinical results were improved by the addition of sedation in the ambulatory patient and by appropriate endocrine therapy
Tables

GOODFRIEND M.J KLEIN M.D & SMOLEY J.M Pregnancy associated with hypertension and intracranial hemorrhage
Am.J Obst. 5? 770 776 No 4 Oct.1949

Five cases of intracranial hemorrhage associated with pregnancy are presented and discussed It is believed that a vascular lesion existing before pregnancy is the basis for such hemorrhage

Labor and/or superimposed toxemia may be the precipitating factors because of the increased blood volume the increased blood pressure the fluctuations in pressure and increased strain

Adequate neurological examination or consultation in pregnant women with hypertension albuminuria and edema is advisable especially in those with cerebral symptoms

In those women with a past history of hemorrhage from rupture of an intracranial blood vessel future pregnancies should be avoided If intracranial hemorrhage complicates an early pregnancy therapeutic abortion is advocated as soon as the patient s condition permits If such patients are not seen until late in pregnancy cesarean section is the procedure for choice
Tables

GORDON A Mental and emotional phenomena of some psychoses in their relation to blood pressure diagnostic and prognostic significance of latter
J.Nerv & Ment.Dis 72 396 404 Oct 1930
An investigation of the relationship between an alteration of blood pressure and mental phenomena in some psychoses 37 patients with psychotic manifestations were studied and 35 control individuals
The following relationship was evident The fall or rise of blood pressure is accompanied or followed by distinct modification in patient s attitude behavior and consequently in his mode of feeling and thinking the degree of fall or rise of blood pressure has certain bearing on the duration of certain psychotic manifestations in the course of a given mental affection consequently it has an influence on the prognosis of a given phase of the disease
The mechanism of such an important relationship is complex and no definite solution has yet been found
Tables

GORDON W & LEVITT G Blood pressure changes in normals and in hypertensives after intravenous epinephrine and histamine
J Clin.Investigation 14 367 372 May 1935
102 experiments have been carried out on 63 subjects in which the authors have attempted to observe the response of blood pressure to intravenous epinephrine hydrochloride from the standpoint of
1 Type of response
2 Size of dose required to produce any effect or to produce stated effects
3 Magnitude of response
Histamine dichloride also was administered in 86 experiments in the same fashion
Hypertensive subjects reacted to these substances in the same general way as did those with normal blood pressure With minor variations the doses of epinephrine required to produce effects in the normals were about the same as those required to produce the same effects in hypertensives The blood pressure changes after epinephrine injection were approximately equal when expressed as a percentage of systolic pressure Hypertensives reacted on the whole to slightly smaller doses of histamine than normals

GORMAN L W & MARTIN S J Coronary occlusion with and without pain analysis of 100 cases in which autopsy was done with reference to tension factor in cardiac pain
Arch.Int.Med 62 821-839 Nov 1938
A study of the clinical histories and necropsy data for 100 patients with proved coronary occlusion showed that 58 had cardiac pain and 42 did not indicating a higher frequency of painless occlusion that is generally recognized
The authors make the following statement regarding the group of 58 patients The patients tend to be younger males show the peak mortality ten years earlier than do females a history of preceding attacks of anginal pain and hypertension is more common pain overshadows dyspnea as a symptom
Patients comprising the other group tend to be older males show the peak mortality a decade earlier than do females a history of preceding attacks of anginal pain and of hypertension is less common dyspnea is generally an outstanding symptom
Charts

GOULD W L Obesity and hypertension the importance of a safe compound to control appetite report of a series of 100 cases
North Carolina M J 11 7 p 327 334 July 1950
In a series of 100 cases of hypertension associated with overweight excellent results were obtained with a diet low in fats and carbohydrates supported by the use of flarettes a new non toxic appetite curbing preparation 8 overweight patients with malignant hypertension were not benefitted by this regime Flarettes proved effective in curbing the appetite and produced no untoward effects
Charts

GOTTLIEB J S Relationship of systolic to diastolic blood pressure in schizophrenia effect of environmental temperature
Arch.Neurol & Psychiat 35 1256 1261 June 1936
The purpose of this paper is to show the effect of an increase in the environmental temperature on the relationship of the systolic to the diastolic pressure The experiments were performed on 26 schizophrenic patients and 16 normal men The patients consistently had higher correlation and regression coefficients at the first and last periods on both the constant heat and the varied heat day Under the experimental condition the between individual coefficients increased for the normal subjects from the first to the last values The corresponding coefficients for the patients did not change significantly
The within individual correlation and regression coefficients were consistently higher for the patients than for the normal subjects
This study indicates that the schizophrenic patient possesses a relatively static vascular bed due presumably to an abnormal unresponsiveness of the sympathetic nervous system
Tables

GOTTLIEB J.S Effect of changes in environmental temperature on pressure and pulse rate in normal men
Am.J.Physiol 113 181 185 Sept 1935
In this study it was found that as a result of an increase of 9 6°C (17 2°F) in the air temperature the mean pulse rate increased significantly The mean systolic blood pressure showed no change and the mean diastolic blood pressure decreased significantly

GOULEY B.A Basophilic adenoma of pituitary case of pituitary hypertension terminating in cerebral apoplexy
Ann.Int.Med 8 1294 1301 April 1935
On the basis of certain physical characteristics and structural changes in a woman aged 37 a tentative necropsy diagnosis of basophilic hypophyseal adenoma was made and verified by serial histologic section
The clinical history indicated the presence of diabetes mellitus and the presence of malignant hypertension In this connection there was interesting histologic evidence of severe and relatively acute arteriolar disease in the kidneys and to a lesser degree in the pancreas The pituitary adenoma although small had invaded a large sinus within the pituitary capsule
Plates

GRAHAM A W HINES E.A.JR & GAGE R P Blood pressure in children between the ages of 5 and 16 years
Am.J.Dis Child 69 203-207 April 1945
Report of a study based on 25 000 determinations of blood pressure on 3 580 school children living in a small city The children were followed year by year from the age of 5 to 16 years The readings were made by one physician who followed the children s progress for 15 years using the same technique under the same circumstances
The tables based on the data show linear increase of blood pressure both systolic and diastolic with each year of age Average blood pressure reading for both sexes at each age were within one unit of each other Variation in blood pressure reading increased with age and was more pronounced in girls from 10 to 13 years than in boys of the same age
Tables

GRAHAM J.D P Blood pressure after battle
Lancet 1 239 240 Feb 24 1945
In a sample of 695 men from an armored brigade which had experienced at least a year of desert warfare resting pulse rate hoemoglobin and blood pressure were recorded
A symptomless hypertension was found in 187 cases (27%) When 33 of the hypertensives were re examined after two months freedom from battle anxieties 28 showed a normal pressure

GRAHAM J.S Adrenal cortex and blood pressure response to carbon arc irradiation
Am.J.Physiol 139 604 611 Aug 1943
Irradiation of normal dogs with carbon arc lamp used in dosage of 40 gr calories per sq cent produced a fall in blood pressure averaging 16% in systolic and 23% in diastolic After removal of both adrenal glands this reduction averaged 16% systolic and 63% for diastolic The fall in pressure could be prevented in normal animals and diminished or prevented in adrenalectomized animals by the administration of desoxycorticosterone acetate or ACE (adrenal cortical extract)
The red blood cell concentration was reduced by an average of 7% following irradiation of the normal dog After adrenalectomy irradiation reduced the red blood cell concentration by an average of 8% This reduction like that of the blood pressure could be prevented by the administration of adrenal cortical substances
No significant changes in blood sugar or plasma potassium concentrate were counted
It is suggested that the evidence presented further substantiates the view that humoral mechanism is responsible for the reduction in blood pressure following exposure to carbon arc lamp
Tables Charts

GRANDPRE R DE PRADO J L (et al) Influence of protein hydrolysates on the production of nephrosclerosis and hypertension by anterior pituitary preparations
Federation Proc ,Balt 7 27 No 1 Pt 1 March 1948
Investigation of the effect of various protein hydrolysates in food Experiments on black and white male rats treated with l a p (lyophylized anterior pituitary) showed that diets whose nitrogenous constituents were 15% of casein plus an equivalent amount of protein hydrolysate were as effective in producing hypertension and nephrosclerosis as a ration containing 30% casein
It was tentatively concluded that the artificial hydrolysates of proteins do not destroy the factors indispensable for the production of anterior pituitary hypertension and nephrosclerosis hence these could be the neo acids contained in the protein molecule
However in L.A P treated rats receiving diet of 15% casein and an amino acid (histadine tryptophaine etc) in an amount corresponding to that contained in a 30% casein diet nephrosclerosis did not ensue

GRAYBIEL A & GLENDY R.E Circulatory effects following intravenous administration of pitressin (posterior pituitary preparation) in patients with hypertension and angina pectoris
Am.Heart J 21 481 489 April 1941
Nine normal persons 4 patients with essential hypertension and 2 patients with coronary heart disease were given a dilute solution of pitressin intravenously over a period of from 39 minutes to 1 hour or more Significant cardiovascular symptoms were observed neither in the normal persons nor in the patients with heart disease There was evidence of marked constriction of the minute vessels and of the large arteries but not of the arterioles There were only slight changes in the pulse rate blood pressure metabolic rate and cardiac output According to the authors pitressin in therapeutic amounts may be given without fear of untoward cardiovascular effects
Tables

GREEN, D M & GLOVER, M Factors influencing the hypertensive action of desoxycorticosterone
Federation Proc ,Balt 7 224 No 1 Pt I March 1948

Single mg pellets of desoxycorticosterone were inserted subcutaneously in 30 young rats 24 additional animals received 10 pellets each An equal number of males and females were used Half the animals in each group were adrenalectomized Blood pressure weight food intake were observed for 3 months During the first 3 weeks all animals received isotonic saline drink to minimize the post operative mortality in the adren alectomized animals Thereafter water was given to alternate animals The immediate consequence of im plantation was an abrupt rise in fluid intake maximal within 10 days followed secondarily by slow reversions toward control levels The blood pressure showed no pronounced initial reaction but rose slowly during the 3 months period

In 3 months a pressure elevation followed the initial rise in intake and appeared inversely related to the secondary fall At the 10 pellet dose level a major difference in the degree of hypertension attributable to sex salt intake or adrenalectomy was not demonstrated

At the 1 pellet level maximum pressure in male animals definitely exceeded that in females the majority of which failed to develop significant hypertension

GREEN D M JOHNSON A.D (et al) The relation of initial blood pressure to adrenalin action
Federation Proc Balt 7 43 No 1 Pt 1 March 1948

51 patients whose systolic blood pressure ranged from 90 to 248 mm of mercury were given a total of 80 infusions of adrenalin for a period of 75 minutes duration Adrenalin was administered initially at an aver age rate of 0 2 mic per kilogram per minute With attainment of full effect the rate was increased in steps of 0 2 mic per kilogram per minute Infusion was maintained at this rate until the end of the period

Response to adrenalin was calculated in terms of net and unit changes in blood pressure pulse rate and systolic diastolic ratio Individual variation was marked

However when the patients were grouped according to initial pressure, no statistically mean differences in response were demonstrated Post infusion depression of blood pressure below the initial level was found to correlate more closely with the height of the initial pressure with maximum pressure maximum rise in pressure or maximum dose

GREEN D.M JOHNSON A.D LOEB A & CUSICK G Effects of adrenaline in normal and hypertensive patients in relation to mechanism of sustained press ure elevations
J Lab & Clin.Med 33 332 348 March 1948

The study was designed to test whether the response of hypertensives differs significantly from that of normotensives when evoked by a pressor stimulus which bypasses the initial reflex arc The drug was given by continuous infusion at various rates enabling better dosage control 80 continuous adrenaline infusions to 51 subjects evoked a common pattern of systolic and diastolic response at all ranges of initial pressure Correla tion between height of initial pressure and depth of subsequent post infusion pressure indicates that the vaso dilator capacity of the hypertensive is enhanced rather than diminished Accumulated evidence demonstrates the vailability of compensatory mechanisms in hypertensive subjects and the capacity of the vascular apparatus to respond effectively when these mechanisms are properly stimulated

Still to be determined are the factors responsible for elevation of the pressure base line to a new level : the existence of pressure elevation in the presence of a potentially restorative mechanism suggests that sust ained hypertension is associated like fever with an upward shift in the base line from which the homeostatic mechanisms are operative
Tables Charts

GREEN M.B & BECKMAN Obesity and hypertension
N York State J.M 48 1250 1253 No 11 June 1 1948

The report of a study of 1 260 obese cases The observations made concern the incidence of hypertension among the obese patients age distribution of hypertensive obese patients weight reduction and its influence on hypertension and electrocardiographic changes
Tables

GREEN R.S IGLAUER A & McGUIRE J Alterations of radial or brachial intra arterial blood pressure and of the electrocardiogram induced by tilting
J Lab Clin.M 33 951 960 No 8 Aug 1948

A graphic record of radial or brachial intra arterial blood pressure during and after tilting at a moderate rate between the 20 degree erect and the 45 degree head down position was obtained in more than 200 subjects In this study careful analysis was made of the response of heart rate and blood pressure to tilting in 15 healthy young adults in order to establish a standard to evaluate changed reactions due to disease or drugs

Electrocardiograms were recorded in 100 normal adults during and following tilting

An immediate elevation of blood pressure occurred in all subjects studied during the tilt from the 20 de gree erect to the 45 degree head down position An immediate fall occurred during the return tilt from the 45 degree head down to the 20 degree erect position

In normal subjects these primary alterations of blood pressure were followed by a characteristic pattern of depressor response in the head down position and of pressor response in the erect position whereby the blood pressure returned in from 8 to 16 records to a level that was approximately the same regardless of the position of the body

The heart rate invariably slowed in the head down position and increased in the erect position
Charts Diagrams

GREENWOOD W F NASSIM R & TAYLOR N.B Hypertension production by prevention of kidney hypertrophy preliminary report

Canad.M.A.J 41 443 445 Nov.1939

The release of renal pressor substance by the ischemic kidney was believed to be a physiological response to a disproportion between work required of the kidney and its available blood supply If this concept is true the authors thought it should be possible to produce hypertension by preventing the hypertrophy of a kidney which occurs following removal of the opposite kidney Experiments were conducted on dogs

(a) Enclosure of one kidney in a cast with or without a window followed by contralateral nephrectomy at the second operation

(b) Casts to both kidneys at one operation with or without windows

Conclusion The application of a cast to one kidney followed by extirpation of the opposite one is a reliable method of producing a pronounced and rapid rise in blood pressure The hypertension appears to be permanent The prevention of renal atrophy as the provocative factor can only be proven by further investigation

GREGORY J.R Clinical significance of blood pressure

East African M.J 14 42 May 1937 93 June 1937

An extensive article on blood pressure dealing with the following
1 Historical aspect 2 Technique for estimation of blood pressure 3 Pathology and etiology
4 Classification of cases 5 The liver in relation to blood pressure (a) as active principle of the liver
(b) liver tests hepatic efficiency tests 6 Renal efficiency 7 Details of clinical experience and cases
A High blood pressure (1) Juvenile hyperpiesia (2) Physique and age (3) Treatment medical
(4) Organic hyperpiesia (a) Renal (b) Arteriosclerosis (c) Menopausal hyperpiesis (d) Pregnancy
B Low blood pressure : (1) Chronic (2) In chronic diseases (3) Treatment

The author then presents his conclusions

GREGORY R Treatment of orthostatic hypotension with particular reference to use of desoxycorticosterone (adrenal preparation)

Am.Heart J 29 246 252 Feb 1945

Although defects in the reflex sympathetic vasomotor control and increase in the cardiac rate in the upright position have been thought generally to be the most important factors in the pathogenesis of postural hypotension evidence has been presented that the fault lies in failure to maintain adequate return of venous blood to the heart A patient who presented most of the classical manifestations of orthostatic hypotension has been studied Effects of head up sleeping position and of ephedrine benzedrine paredrine paredrinol neosynephrin and epinephrine in oil have been observed These procedures and agents proved unsatisfactory with exceptions noted

Attention is called particularly to the therapeutic value of small doses of desoxycorticosterone acetate in oil by intramuscular injection in conjunction with an increased oral intake of sodium chloride in orthostatic hypotension

Tables

GREGORY R & LEVIN W C Effect of high spinal anesthesia on pressure of patients with hypertension and far advanced renal disease possible relationship to pathogenesis of hyper tension

J.Lab & Clin.Med 30 1037 1043 Dec 1945

Falls in blood pressure obtained during spinal anesthesia in patients with essential hypertension and uremia may be very marked and as great as falls in blood pressure similarly produced in patients with essential hypertension and normal renal function

The authors believe that the great fall in blood pressure induced by high spinal anesthesia indicates that the elevation of blood pressure is due to increased vasomotor tonus even in patients with extreme irreversible arteriolar di ease as shown by clinical and chemical evidence of uremia

These results are contradictory to the thesis that the fall of blood pressure in hypertension produced by functional or anatomical interruption of the sympathetic nervous system is due to improvement in renal blood flow

Charts

GRESSEL G C SHOBE F O (et al) Personality factors in arterial hypertension

J.Am.M.Ass 140 265 272 No 3 May 21 1949

Extensive study of degree of association between presence of hypertension and certain personality patterns in three groups of individuals

(1) 50 consecutive subjects with essential hypertension

(2) Control group of 50 subjects (matched on age sex education etc) suffering psychiatric illness but not psychotic

(3) Control group of 50 subjects (matched on age sex education etc) who have chronic medical or surgical disorders but not psychotic

Statistically significant degrees of association are found for obsessive compulsive behavior and for subnormal assertiveness

Neurogenic hypertensive and other types of hypertensive subjects have not been shown to differ significantly in the rated patterns

Tables and Charts

GRIFFITH J Q JR   Involvement of facial nerve in malignant hypertension
Arch.Neurol & Psychiat 29 1195-1202 June 1933

Nine cases of malignant hypertension with attendant facial paralysis are reported by the author Eight are culled from the literature and one came under the author s personal observation

He concludes   Facial paralysis occasionally occurs in malignant hypertension It is probable that it is caused by one or the other of the following

(1) hemorrhage within the facial canal (2) hemorrhages in the pons (3) pressure by an artery on the nerve trunk between its point of origin from the pons and the internal auditory meatus (4) involvement of the nerve in the same area as part of an increased intracranial pressure

The facial paralysis does not appear to modify in any way the course of the malignant hypertension but, conversely malignant hypertension is one of the most serious etiologic factors that can be discovered for a facial paralysis

GRIFFITH J Q JR CORBIT H O., RUTHERFORD R.B & LINDAUER M.A   Criteria for classification of arterial hypertension, types of hypertension association with presence of posterior pituitary substance
Am.Heart J 21 77 89 Jan.1941

Hypertension in rats was produced by giving a single large dose of pitressin a single small dose of pitressin together with fluid by mouth and repeated small doses of pitressin In the three forms of hypertension, the blood volume was respectively low high and normal. A biologic test for an antidiuretic substance in the serum of patients is described This test was positive in certain cases of high blood pressure Such patients usually have increased minute vessel pressure about 50% have increased cutaneous lymphatic flow and some have papilledema The blood volume may be normal or increased In such cases the test may become negative after pituitary irradiation with usually some clinical improvement and a variable effect on blood pressure The test is not specific for posterior pituitary hyperactivity but when it is positive in a particular case it may serve as a measure of the effect of pituitary irradiation If it subsequently becomes negative the inference is that the pituitary was at fault

GRIFFITH J Q JR & LINDAUER M.A   Medical management of hypertension and tests for selection of patients
Am Pract 2 369-373 Feb 1948

The causes of hypertension may be found in many pathological conditions renal disease pituitary disease characterized by over-function of the posterior lobe capillary fault, adrenal disease etc Cases arise in which no etiology can be found, and are diagnosed as inactive hypertension The physician once he has established the cause of the disease should then evaluate the extent of the damage according to the method the authors describe Selection of treatment is next considered, both medical and surgical measures being reviewed Finally the authors discuss the probable prognosis of the disease in the light of its particular etiology damage done and treatment prescribed

GRIFFITH J Q JR & LINDAUER M A   Increased capillary fragility in hypertension, incidence complications and treatment.
Am.Heart J 28 758 762 Dec 1944

Capillary fragility was increased in about 15% of 265 cases of hypertension. This incidence was not related to sex age or degree of hypertension. Persons with increased capillary fragility are especially predisposed to apoplexy retinal hemorrhage and death Thiocyanate tends to make worse a previously abnormal fragility or perhaps in certain cases may even change fragility from normal to increased When this occurs thiocyanate may be a factor in the causation of apoplexy and other hemorrhagic phenomena Hesperidin and hesperidin methyl cholcone restored fragility to normal in about 84% of cases of increased capillary fragility

GRIFFITH J Q JR., PADIS N & ANTHONY E   Selection of patients for treatment by repeated injections of pitressin (posterior pituitary preparation)
Am.J.M.Sc 212 31-34 July 1946

63 persons with hypertension were selected on the basis of (1) positive bio-assay for antidiuretic hormone in serum, (2) negative bio-assay for gonadotropic hormone in serum at the level of 330 mouse-units (3) normal renal function

They were given injections of pitressin tannate using various procedures but the one which appeared best was 1 cc of pitressin tannate in oil, weekly for 3 weeks and the monthly for 3 months therafter bio-assays were done at monthly intervals for anti-diuretic hromone which remained negative

Taking the group as a whole the blood pressure was significantly lowered, and symptoms improved in about half the cases Reactions other than occasional mild urticaria did not occur using the procedure just described with aqueous pitressin there was severe reaction

It is suggested that the results parallel closely those obtained by pituitary irradiation.

GRIMSON K.S   Role of sympathetic nervous system in experimental neurogenic hypertension.
Proc.Soc.Exper.Biol.& Med 44 219-221 May 1940

This study is based upon an effort to determine the blood pressure levels produced by section of the depressor nerves in normal dogs and compare them with the pressure levels produced by the same procedure in dogs sympathectomized with the exception of the nerve supply to the kidneys and adrenals as well as to study the effects of renal denervation splanchnic resection and total paravertebral sympathectomy on the former group

1 In 9 dog both carotid sinuses were excised left vago sympathetic-depressor nerve cut and a segment of the right sympathetic depressor trunk removed None of the dogs failed to develop a hypertension and in none of them was there any late lowering of the hypertension

2 In 6 normal dog both paravertebral sympathetic chains were removed. Average blood pressures fell in 14 to 29 days from 142 to 112

3 Seven dogs have been sympathectomized with the exception of the splanchnic supply to the adrenals and kidneys according to the described technique Their blood pressures just preceding modulator nerve section averaged 136 and during several weeks afterward 195 Renal denervation in 4 of the 7 dogs has re stored their pressure to about the normal

4 Further experiments have shown that renal denervation alone neither prevents nor appreciably alters the hypertension produced in normal dogs by modulator nerve section They have also confirmed that ab dominal sympathectomy except for one thoracic chain fails to restore the blood pressure of neurogenic hyper tensive dogs to normal

GRIMSON K.S., HENDRIX J P & REARDON M.J Newer adrenolytic sympatholytic and ganglionic blocking drugs

Jour.A.M.A CXXXIX 154 1949

The authors list various drugs capable of vasoconstricting blocking and depriving sympathetic reflexes (1) Ergotamine tartrate (2) 833 F (Piperidylmethyl Benzodioxane) (3) Priscol (2-benzyl 4 5 imidazoline hydrochloride) (4) Dibenamine hydrochloride (N_1N_1 dibenzyl beta-chloroethylamine hydrochloride) (5) Etamon chloride (tetraethylammonium chloride)

GRIMSON K.S KERNODLE C.E.JR & HILL H C Hypertension effect of activity rest natural sleep sodium amytal pentothal sodium (barbital preparations) chloralose and ether on experimental neurogenic hyper-tension and of rest and sodium amytal and anesthesia on hypertensive patients

J.A.M.A 126 218 221 Sept 23 1944

Experimentally and clinically the blood pressure altering effect of rest sedation or anesthesia has been found *variable* Etiologic assumption of surgical prognosis based principally on rest and sodium amytal or anesthesia tests may be misleading The blood pressure lowering effect of these tests clinically should be but one of many factors considered in the evaluation of the hypertensive patient

Tables

GRIMSON K.S ORGAIN E.S (et al) Results of treatment of patients with hypertension by total thoracic and partial to total lumbar sympathectomy splanchnicectomy and celiac ganglionectomy

Ann.Surg 129 6 850 871 June 1949

A report of results of adding denervation of thoracic viscera upper body head neck and limbs to splanch nicectomy for comparison with results of splanchnicectomy alone It summarizes the outcome of the operation on 113 patients ages 15 to 50 (agerage age 36) 46 male 67 female all had persistent systolic and diastolic hy pertension not decreased by medical treatment or by one or more weeks pre-operative hospitalization The operation was *performed* in two stages 3 weeks apart Extent of denervated area was determined by Richter neurodermometer or by iodine starch heat test The results were described in terms of effect on blood pressure effect on symptoms effect on complications effect on hypertensive retinopathy effect on renal function effect on size of heart effect on electrocardiogram effect in subsequent pregnancy

The conclusions *are* that progression of hypertensive disease was retarded in all and arrested in some Reduction of pressure relief of symptoms prevention of recurrence of complications and elimination of hyper tensive retinopathy *occurred* in most cases There was little change in heart size and electrocardiogram The life expectancy increased

GRISWOLD H.E BING R.J (et al) Pulmonary arterial hypertension in congenital heart disease

Bull.Johns Hopkins Hosp 84 76 88 No.1 Jan.1949

This is an *analysis* of cases of patients with congenital cardiac malformations with an attempt to deter mine the frequency distribution and dynamics of pulmonary arterial hypertension The group studied con sisted of 24 patients with pulmonary hypertension aged 6 to 45 years They included those with auricular and ventricular septal defect patent ductus arteriosus coarctation of the aorta partial transposition of the great vessels

Three mechanisms are proposed which could have produced pulmonary hypertension in these patients

(1) Increase in pulmonary blood flow in the presence of fixed pulmonary resistance

(2) Increase in the pulmonary vein pressure

(3) Reduction of the cross sectional area of the pulmonary vascular bed

Tables

GROAT R.A & PEELE T.L Response to acutely increased pressure upon spinal cord

Am.J.Physiol 144 578 597 Sept.1945

When spinal intradural pressure is raised acutely in animals in which the brain has been rendered funct ionless by compression asphyxiation or in which the spinal cord has been severed by ligature in the cervical region a pressor response *occurs* which is comparable to that elicited by increased intracranial pressure with the central nervous system intact Since under the conditions of the experiments elevated intracranial press ure is not transmitted to the vertebral canal the responses can be attributed to anemia of the spinal cord in the case of raised spinal intradural pressure and to anemia of the medulla in increased intracranial pressure The response to increased spinal intradural pressure occurs after the adrenals have been removed A good response is obtained with little or no cardiac acceleration if the response has been repeatedly elicited or if the spinal cord has been partially asphyxiated The spinal cord structure responsible for the response to in creased spinal intradural pressure is more resistent to inactivation by prolonged asphyxia than is that in the medulla which responds to elevated intracranial pressure

Graphs

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GROLLMAN A & OTHERS : Sodium restriction in diet
J.A.M.A 129 533 537 Oct 20 1945

Diets rendered low in sodium content by dialysis were found to reduce decidedly the blood pressure of rats with experimental renal hypertension That this effect was due to the low sodium content of such diets was demonstrated It was also shown that prolonged administration of such low sodium diets not only was not deleterious but apparently actually prolonged the life of the experimental hypertensive animals

In 6 human hypertensive patients a drastic reduction in the sodium intake made possible by dialysis of the milk included in the diet resulted in no decline in blood pressure in one subject a reduction of the pressure to essentially normal levels in 2 and a moderate reduction in the remaining 3 one of whom however displayed acute circulatory collapse which responded promptly to sodium chloride therapy It is suggested that such diets be utilized for a brief trial period for patients with hypertension and employed for a longer period in subjects who display a favorable response
Charts

GROLLMAN A WILLIAMS J.R.JR & HARRISON T.R : Reduction of elevated blood pressure by administration of renal extracts
J.A.M.A 115 1169 1176, Oct 5 1940

Extracts of the kidney have been prepared which when administered orally to normal animals do not produce a decline in blood pressure but have a property of partially inhibiting the pressor effect of subsequently injected renin When extracts containing the renal antipressor substances in sufficient amount are administered to animals with experimental renal hypertension a well marked and prolonged decline in the blood pressure occurs

A small number of patients have been treated by means of the renal antipressor substance In most of the cases a decline in the blood pressure has occurred

The available evidence seems to indicate that the renal antipressor substance has certain unique properties which differentiate it from various depressor tissue extractives described by previous investigators
Tables and Charts

GROSS H & SPARK C Coronary and extracoronary factors in hypertensive heart failure
Am.Heart J 14 160 182 Aug 1937

In this study the factors concerned in the failure of hypertensive hearts free of significant coronary disease have been considered As a control group a series of 40 hypertensive cases with chronic congestive heart failure and varying degrees of coronary artery disease have also been analyzed

Cardiac hypertrophy is found to be the feature common to cases of congestive heart failure irrespective of the presence or absence of major coronary artery disease Three types of muscle changes were observed in many cases Anatomical functional and mechanical factors appear to play a role in myocardial fibrosis A collateral circulation both intracardiac and extracardiac may play a role in preventing failure of the hypertrophied heart

Congestive heart failure is due to coronary insufficiency only in the sense that impairment of nutrition and necrobiosis are on final analysis a function of blood supply in heart tissue as in any other tissue

Congestive heart failure is the failure of the heart which fails to undergo further hypertrophy The cause of failure lies in some disturbance other than the anatomical though cardiac hypertrophy is the cardinal associated finding Such hearts may be correlated with demonstrable disturbances which occur to be the ultimate cause of failure
Plates Tables and Charts

GRUBER C.M Arterial blood pressures and blood flow in skeletal muscles as influenced by epinephrine
Proc.Soc.Exp.Biol N Y 26 472 1928 1929

The spinal cord of cats was cut in the thoracic region In these animals dilute solutions of epinephrine were injected in small amounts It caused in some animals a fall in others no change and in still others a rise in blood pressure

Small doses of epinephrine invariably caused an increase in the rate of blood flow in skeletal muscles irrespective of the change in blood pressure Large doses of epinephrine rapidly injected intravenously caused an increase in blood pressure accompanied by a decrease in the rate of blood flow and skeletal muscle Following the rise the blood pressure fell below the normal level and simultaneously with it a marked increase in the rate of blood flow through the muscles was observed

These results according to the author show that epinephrine produces a dilatation of the blood vessels in one region of the body at the same time that it causes vaso constriction in other regions and the blood pressure recorded is the stronger effect minus the weaker

GUERNSEY M WALD H & SCOTT F.H Effects of alteration of posture on arterial pressure
Am H.J 14 318 330 Sept.1937

On changing from the recumbent to standing position the systolic pressure is from 5 to 40 mm Hg below the recumbent level about 10 seconds after the change There is a rapid recovery after this initial drop and after about 30 seconds many have regained or passed the recumbent level In some few cases the recovery is slower Diastolic pressure usually rises slightly on standing The same type of reaction is seen when the subjects are tilted into the vertical posture but the drop is greater and the recovery less Prolonged quiet standing is a severe strain on the circulation as shown by the frequency of fainting Reflexes from the carotid sinuses and arch of aorta are responsible (in part at least) for the reactions leading to the recovery of the pressure
Charts

GUIANG R V & LEONES-GUIANG, M A   Should ice bag be applied to head of hypertensive patient with cerebral hemorrhage ?
J Philippine M A 21.397-402 Aug 1941
The blood pressure reaction to cold stimulus applied to the head was studied in 15 cases of hypertension 1 suffering from chronic nephritis and 14 from essential vascular hypertension 7 females and 8 males age range 32 to 76 years average age 54 years
1 In practically all these cases this cold application caused quite sudden though transitory elevation of the systemic blood pressure both systolic and diastolic
2 This cold application also caused no symptoms in 1 case slight headache in 7 cases moderate headache in 4 cases and severe headache in 3 cases The higher the rise in blood pressure the more severe the head ache
3 Viewed in the light of these results the pplication of the ice bag to the head of a hypertensive patient with cerebral hemorrhage was critically appraised In this appraisal it was concluded that this therapeutic measure is unnecessary unphysiological and perhaps dangerous
Tables

GUIMARAIS J A   Secretagogue and depressor substances in saliva and pancreatic juice
J Physiol 86 95 108 Jan 15 1936
A study of the secretory effects induced by saliva and pancreatic juice secreted in response to parasympathetic or to sympathetic stimulation and with the possible relationship between salivary secretagogue and depressor substances Results
1 Like parasympathetic saliva sympathetic saliva contains secretagogue substances to the submaxillary gland
2 The secretagogue and depressor constituents of the saliva are not identical
3 Though effective the salivary alcoholic extracts show rather weaker secretagogue and depressor actions than those of saliva itself
4 Dogs pancreatic juice contains substances exciting pancreatic secretion
5 Pancreatic juice has no secretagogue action on the submaxillary gland and saliva has practically none on the pancreas
6 Pancreatic juices contain depressor substances which show the same properties as those contained in the saliva their action is not abolished by atropine and they are destroyed by heating
The functional significance of these secretagogues is discussed
Charts

GUIRDHAM A   Sex hormones and blood pressure
Bristol Med Chir J 58 19 21 1941
A presentation of two cases to demonstrate the effect of sex hormones in lowering the blood pressure in other than menopausal conditions and more particularly to show the antagonizing effect on blood pressure of testosterone and oestradiol in the same person
Oestradiol can reduce a high blood pressure not only in menopausal hyperpiesis but in condition of raised pressure associated with arteriosclerosis and renal disease It has also an effect in markedly lowering blood pressure in cases where the original pressure is not raised It is possible in the same individual to lower and raise the blood pressure at will by the administration of oestradiol and testosterone respectively While all the evidence goes to show that where oestradiol affects the blood pressure at all it does so by lowering the pressure there is no such simple generalized tendency to be ascribed to testosterone

GUNEWARDENE H O   Treatment and control of essential hypertension new therapeutic measure (electro therapy)
Brit M J 2 1114 1116 Dec 16 1933
The author used electrical stimulation of the skeletal muscles as a therapeutic agent of moderately high blood pressure In every case the pulse rate dropped sometimes by eight beats to the minute In a few it remained stationary in none did it rise
Tables

GUNEWARDENE H O   Stroke in high arterial pressure 150 cases
Brit M J 1 180-182 Jan 30 1932
The following subjects are discussed (1) Definition of stroke (2) Frequency of stroke (3) Motor and sensory strokes (4) Diastolic pressure in strokes (5) Heart failure in stroke (6) Diagnosis and prognosis
The author on the basis of his observations makes the following inferences on the stroke in high arterial pressure
1 That transient or permanent paralyses of varied distribution occur fairly frequently
2 That strokes often attributed to other factors such as shock exertion emotion are the result of an already existing pressure exacerbated by the influence of these factors
3 That cerebral hemorrhage occurs most commonly in people working in defiance of an already existing pressure and without taking any account of this abnormality
4 That any kind of paresis or paralysis is very rare in cases in which diastolic blood pressure is under 115 If they do occur the minimum diastolic pressure is over 115 at the time of the stroke Strokes at this pressure are rarely fatal or permanent The former occurs in patients with thickened vessels or other disease the latter in an unfortunate few or those in whom the causative factor is other than hypertension Cerebral hemorrhage seems to occur more frequently in those cases of hypertension which show neither marked cardiac enlargement or symptoms and rarely in those ca es in which there are signs both of considerable cardiac enlargement and symptoms of heart failure

GUNNSON E.B & PETTIT T.H State of circulation after endurance test
Brit.M.J 1 280 Feb.13 1932
Observations were made in the case of a woman swimmer (age 30 weight 168 lbs height 5 4) after an endurance swim of 43 hours in salt water baths at temperature of 75°F Observations on the state of the circulation are presented which were made on the completion of the test after 9 hours rest and after 96 hours Beside an alteration in the electrocardiogram the only change observed was in the blood pressure (rise in diastolic 72 to 100 mm systolic 108 to 118 mm increase in heart rate 8 beats per min) and the blanching of the hands which presented the appearance of a stage of Raynaud s disease It is suggested that a healthy swimmer's capacity for an extended endurance swim in tepid water may depend on the integrity of the peripheral circulation in the first instance and that a healthy myocardium is not embarrassed at this stage

GUNTHER L Intramuscular pressure physiology of venopressor mechanism and importance of maintaining intramuscular pressure in treatment of peripheral collapse of shock and shock like states
U.S.Nav.Med.Bull 41 414-426 March 1943
Based on observations and experiments of his collaborators the author elaborates on Henderson s postulate of hypotonia and the venopressor mechanism and demonstrates a simply effective means of restoring intramuscular pressure and of maintaining the flow of the peripheral circulation after injury even on the field of battle
Observations were made on patients on the operating table before and during the course of anesthesia and surgery These observations are strong evidence to support the thesis that except for vasoconstricting action of the sympathetics which temporarily increased venous pressure the general level of venous pressure and venous flow is maintained only as long as the intramuscular pressure is maintained
The intravenous use of coramine in adequate doses from 5 to 10 cc is a valuable adjunct in the treatment of the immediate period of shock The clinical evidence of peripheral collapse rapidly regresses for a period of an hour or more The effect can be repeated by second intravenous administration The time interval is important Peripheral circulatory support is obtained during the immediate period when fatalities occur

GUNTHER L HENSTELL H.H STRAUSS L & ENGELBERG H Intramuscular pressure venopressor mechanism during course of surgical procedures
Am.J.M.Sc 204 394-401 Sept.1942
1 In four patients studied during the course of operative procedure under inhalational anesthesia intramuscular and venous pressures dropped after 50 minutes of surgery Within 50 minutes to 12 hours after the initial fall the maximum decrease occurred in both intramuscular and venous pressures
2 In two patients studied during the course of operative procedure the fall in intramuscular pressure preceded the decrease in venous pressure by 1 to 12 hours
3 In one patient with congestive heart failure undergoing pericardial thoracentesis the fall in intramuscular pressure preceded the drop in venous pressure by 20 minutes and occurred within 5 minutes after the pericardium was pierced - after which time the patient rapidly entered into a shock like state
4 Two patients observed within 9 hours after nephroplexy whose intramuscular pressure change was 10 mm showed no alteration in venous pressure
Tables Charts

GUTMAN J Arterial hypertension and physical therapy
Arch Physical Therapy 10 259 265 June 1929
The author states that in hypertension colon irrigations scientifically administered and not given merely like an enema give great satisfaction For cleansing large quantities of alkaline or saline solutions must be used followed by the injection of antiseptic astringents or the implantation of acidophilus products After colonic lavage the cases were electrotherapy A lowering of blood pressure with the improvement of colons was observed

GUTMAN J A study of high blood pressure in women from the endocrine point of view
New York M.J (etc) cxiv 31-35 1921
The author insists that no case should be designated as one of essential hypertension until every possible pathological factor has been excluded Essential hypertension in multiparous middle aged pituitotrop c women is due to an increase in blood pressure raising pituitary hormone produced by a greatly hypertrophied hyper functionating hypophysis
The pituitary hormone is a normal factor in the maintenance of arterial hypertension through its effect upon the cardiac and arterial musculature the renal and peripheral vessels According to the author the term essential hypertension in this case is inappropriate

GUTMANN D Medullary suprarenal chromaffinoma producing malignant hypertens on
Brit.M.J 1 563 564 April 26 1947
A report of a case of medullary suprarenal chromaffinoma (pheochromocytoma) presentin, features of intermittent attacks of paroxysmal hypertension and vasomotor crises ending in malignant hypertension with uremia as the cause of death History of the case and results of various examinations conducted during and after the attacks

GUTTMANN E Psychiatric observations in arterial hypertension
Proc.Roy.Soc.Med 29 1387 1391 Sept 1936
In general medicine the distinction between arteriosclerosis and essential hypertension is common knowledge In neurology pathologists have emhasized the importance of functional circulatory disturbances as causal factors in some brain lesions and thus they have made possible the clinical demarcation of the picture of

hypertensive encephalopathy In clinical psychiatry the demarcation of essential hypertension was made little use of A purely clinical description and classification of the mental disturbance observed in hypertension has been found of great importance as an aid to prognosis and treatment The neurological syndromes resulting from hypertension are characterized by their episodic nature their fluctuation and reversibility The psychiatric syndromes show similar characteristics

HACKFIELD A W Objective interpretation by means of Rorschach test of psychobiological structure underlying schizophrenia, essential hypertension Graves syndrome, etc preliminary report
Am.J Psychiat 92 575 586 Nov 1935
A study of the application of the test to a total of 63 patients, 7 of whom were suffering from essential hypertension in order to evaluate the psycho biological structure underlying certain clinical syndromes The study revealed that the psychobiological structure of the various clinical syndromes is identical
The relevance of this study to the finding of many clinicians That in all these neuro vegetative syndromes one finds psychic components is commented upon
Tables

HAINES S Myxedema and hypertension 2 cases
Proc.Staff Meet Mayo Clin 7 377 382 June 29 1932
The effects of the administration of thyroid gland or of hyperthyroidism on the circulation in cases complicated by hypertension may vary greatly To illustrate some of these effects two cases are reported
There is evidence that the association of exophthalmic goiter and essential hypertension does produce definite changes in the blood pressure levels which eventually disappear following exophthalmic goiter at least under certain conditions
Under certain conditions in cases of exophthalmic goiter in which essential hypertension is present the diastolic pressure fluctuates more widely and reaches a lower level than otherwise is true The problem is of theoretic interest only In the casein which exophthalmic goiter and also adenomatous goiter complicate essential hypertension thyroidectomy improves the cardiac symptoms and reduces the load on the cardio vascular system regardless of the effect on the average height of the systolic or diastolic blood pressure
Tables

HALL S.BARTON Blood pressure in psychoneurosis investigation of 71 cases
Lancet 2 540-543 Sept 10 1927
A study of blood pressure of cases suffering from psychoneurosis age 20 to 60 years 41 male and 30 females Observations were made as follows
1 Blood pressure in neurasthenia and psychasthenia
2 High blood pressure in anxiety neurosis
3 Response of blood pressure to momentary emotional stimuli
The author comments upon the observations and draws several conclusions
Charts and Tables

HALLUM A V Eye changes in management of hypertensive toxemia of pregnancy 5 year study
South M.J 31 84-87 Jan 1938
A study of the charts of 300 patients with hypertensive toxemia of pregnancy with emphasis on the retinal changes
The progressive changes in the retinal picture as the toxemia develops adre described in detail together with findings reported in other similar studies
The author concludes The obstetrician will find a study of the eyeground when considered with the other signs and symptoms of toxemia will be a real aid probably the most reliable single guide in determining when pregnancy should be terminated
Tables

HALPRIN H Pancreas as regulator of blood pressure
J.Am.Inst.Homeop 29 472 474 Aug 1936
This paper attempts to prove the relationship of the pancreas and its secretions to changes in blood pressure from the normal As a preliminary study of this subject two large groups of patients must be recognized
Group I the hyperpancreatics with increased secretion of insulin and symptoms bordering on mild shock
Group II the hypopancreatics where pancreatic secretion below normal and where signs and symptoms of hypertension are shown In this class are included the so called (1) hypertension cases (2) cases of diabetes mellitus
Essential hypertension is a functional disturbance of the vasomotor system due to a slow activity of the pancreas hypopancreatism This implies that the elevated blood pressure of essential hypertension can be treated only by stimulating the pancreatic secretion or by replacing a lack of pancreatic substance and rearranging the dietary regime of the patient so that the proper medium is provided for this substance to act upon
The author contends that the pancreas besides its proteolytic enzyme action besides its islands of Langerhans and their action of insulin on the carbohydrates also serves to detoxify the products of decomposition absorbed from the intestinal tract
These products have pressor qualities and may cause spasm of the vascular system which in turn leads to permanent hypertension
The pancreatic extract is prepared from the fresh gland

HAM G C & LANDIS E M A comparison of pituitrin with the antidiuretic substance found in human urine and placenta

J Clin Invest 21 455 470 1942

The authors observed that the urine from patients with toxemia of pregnancy contained large amounts of anti-diuretic substance It appears that an antidiuretic substance differing in important respects from the hormone of the posterior pituitary can appear in the urine of human beings

It was also found that the placentas of patients with toxemia of pregnancy contained larger quantities of antidiuretic substance than did placentas from normal patients The antidiuretic substance from placentas resembled in all three respects the antidiuretic substance found in the urine of such patients

Bibliography

HAMBURGER W W Treatment of hypertension

M Clin North America 25 129 145 Jan 1941

The author treats his discussion of hypertension in the following way

1 Historical and present day concepts of hypertension
2 Experimental hypertension
3 Classification special attention being paid to the Schroeder and Steele classification
4 Treatment (a) Fear of hypertension should be relieved (b) Occupation there is probably no need to change this radically (c) Diet (d) Drugs

The author writes " In summary then moderation in all things mental and physical rest freedrom from emotional excitement pressure strain undue fatigue and hurry are the major objectives in the treatment of hypertension

The author discusses the treatment of specific complications of hypertension by reference to individual case histories and in conclusion he refers briefly to the role of the emotions in the genesis of hypertension and what may be done in a practical way toward amelioration

HAMILTON A S & COLLINS D A Homeostatic role of renal humoral mechanism in hemorrhage and shock

Am J Physiol 136 275 284 April 1942

The pressor activity of arterial and renal vein blood was studied by determining the change in blood press ure resulting from injection into nephrectomized recipient

That the kidney was responsible for the development of pressor activity was indicated by two findings

(1) Renal vein blood usually gave greater responses than the corresponding arterial blood

(2) Pressor reactions were obtained from the blood of adrenalectimized dogs but not from dogs with both kidneys and adrenals removed

The findings indicate that either hemorrhage or histamine evokes a humoral mechanism in the kidney and that this mechanism aids in the maintenance of arterial blood pressure

Tables

HAMILTON J A Psychophysiology personality and behavior ratings

Psychosom Med 4 125 133

Experimental and contro group for this study was selected from 4 populations on the basis of blood press-ure determination and routine physical examination at 2 educational institutions The total population reservoir is 5 470 Criteria for selection were blood pressure readings age race and cooperation

Personality and behavior characteristics of 102 young male individuals with elevated blood pressure were investigated with experimental and statistical controls Corroborative evidence from 271 additional subjects was also presented Psychological and physical characteristics are discussed

Tables

HAMILTON W F WOODBURY R A & HARPER H T Arterial, ~~cerebrospinal~~ and venous pressures in man during cough and strain

Am J Physiol 141 42 50 March 1944

Differential pressure records are shown which separate the changes in arterial pressure which are due to simple propogation of intrathoracic pressure from those which are due to changes in blood flow The nature of the cerebrospinal pressure pulsations is discussed

During the preliminary pressure rise of the cough people whose circulation is hypodynamic show arterial pressures which are no higher than simultaneous intrathoracic pressures During brief intervals there is therefore no effective need of pressure to irrigate the coronary or other vital vascular beds

During the expulsive phase of the cough the arterial pressure may continue to rise while the intrathoracic pressure is going down or the arterial pressure may descend more slowly than the intrathoracic pressure This signifies that the pressure distending the aorta is rising and since it often occurs during diastole it im plies that during the expulsive phase of a cough blood is forced from the lungs into the aorta

Tables

HAMMAN L Prognosis of hypertension

Atlantic M J 31 472-480 April 1928 also West Virginia M J 24 157 166 April 1928

The author studied clinical findings of 314 of his patients who were hypertensive (systolic blood pressure 150 millimeters mercury and over) and observed them over a period of 2 years or more The following sum mary is presented

1 In studying a patient with hypertension the height of the blood pressure condition of the heart degree of kidney involvement and condition of retinal arteries all have important bearing on the prognosis

2 Repeated examinations are particularly desirable If from year to year there is but little change the prognosis is better than when the advance is more rapid

The author s discussion is extensive and he presents several tables

HAMMARSTROM SVEN & BECHGAARD POUL Prognosis in arterial hypertension Comparison between 251 patients after sympathectomy and a selected series of 435 non operated patients

Amer Jour Med VIII No 1 53 56 Jan 1950

A follow up of a series of 1 000 non operative hypertensive patients Neither this nor any other unselected series is suitable for comparison with operated groups which are selected according to certain rules Retinal exudates were found in only 1% in the former and 31% of operated

The present series is of 251 operated patients followed 2 to 8 years after sympathectomy No operative mortality was found in consecutive series of 2,0 hypertensives The patients were submitted to technique of Smithwick and Peet

The prognosis was found to be consistently better in the operated than in the non-operated patien s Frequency of malignant hypertension was higher in men than in women

The authors demonstrate the beneficial effect of sympathectomy on life expectancy in patients suffering from essential hypertension

A new classification of essential hypertension based on the clinical findings which have proved to be of greatest prognostic value is proposed

Tables

HAMMER H J & SCHULTE T L Changes in blood pressure produced by prostatic massage

Proc Staff Meet Mayo Clin 14 13 15 Jan 4 1939

After prostatic massage some patients exhibit mild or marked vasomotor collapse which in a few in stances terminates in syncope In all cases there is a definite latent period This study was undertaken with the purpose of determining what physiologic vasomotor changes were associated with prostatic massage and whether it could be correlated with any specific lesion

In 4 of 378 cases syncope occurred The average control blood pressure was 1 5 mm of mercury systolic and 75 diastolic and after massage 62 mm of mercury systolic and 41 diastolic Vasomotor re sponses after massage in the sitting bent over and lying positions were similar and the effect of posture was negligible

HANDLER P & BERNHEIM F Dietary factors in experimental renal hypertension protein

Federation Proc Balt 7 289 No 1 Pt 1 March 1948

Series I Adult male rats were rendered hypertensive by Raska technique Three weeks later when systolic pressures stabilized at 145 to 160 mm of mercury they were divided into three groups of 12 rats each which were fed chow (A) and synthetic rations containing 50 (B) and 5% (C) casein (A) group mean survival (51 days) (B) group mean survival (37 days) (C) group mean survival (63 days)

Series II Rats were fed synthetic rations containing 50 (D) 25 (E) and 5% (F) casein for two weeks before surgery and continued on those diets thereafter Two weeks later mean systolic pressures were D - 168 mm E 141 mm F 114 mm Pressures in group D rose to 180 to 220 mm for three weeks and fell to subnormal levels in the last week as the animals lost weight Pressures in group F remained low for four weeks and rose to 180 to 210 mm the last week accompanied by a drastic weight loss Group E remained at 140 to 155 mm for four weeks and then behaved like group F No correlation was observed between press ure and blood NPN or protein concentration

HARE D C & M NOEL KARN Investigation of blood pressure pulse rate and response to exercise during normal pregnancy and some observations after confinement

Quart J Med 22 381 404 April 1929

The average systolic blood pressure of healthy women during pregnancy is lower than the average of non pregnant women also the average deviation during pregnancy is less and the range is consequently slightly smaller The mean diastolic pressure during pregnancy is not significantly different from that of non pregnant women The pulse pressure is lower than that of non pregnant women and falls with the advance of pregnancy

Tables

HARLAND J C & D ABREU F Lumbo dorsal sympathectomy in severe hypertension an interim survey

Brit M J 1 1019 1024 No 4616 June 11 1949

A series of 24 consecutive cases operated on at Westminster Hospital is reported The authors suggest their conclusions as of tentative nature - due to the fact that only 24 were in the series but all were thorough ly investigated before operation and carefully observed since The presentation is divided into the following sections (1) Diagnosis (2) Symptoms (3) Physical findings including blood pressure fundal appearances cardiac state renal function lumbar puncture (4) Operation (5) Mortality (6) Results of operation in cluding the following (a) effect on the blood pressure (b) retinal changes (c) cardiovascular change with presentation of cases (d) malignant hypertension

The authors reach the following conclusions

1 There is a slight chance of permanent lowering of the blood pressure

2 Retinopathy when present may improve considerably

3 There is not enough evidence to indicate clearly the effect of hypertensive heart disease some patients may appear to improve temporarily but this unlikely with severe disease

4 Operation causes striking symptomatic relief with notable gain in weight

5 In primary malignant hypertension the malignant phase may disappear

Tables and Plates

HARRIS A W   Rationale of medical management of patients with arterial hypertension review
Tri-State M J 14 2727 2733 July 1942

The author first gives a definition of hypertension and its physiology before he goes into its management The establishment of the diagnosis should be followed by a record for the factors active in each case Proper understanding of the personality of the patient will of course determine whether or not it is advisable that he should be told the general significance of his condition Rest and diet is discussed by the writer as well as the use of drugs specifically the thiocyanates

HARRIS H C   Syphilis as etiologic factor in arteriosclerosis and arterial hypertension
Mil Surgeon 88 642 659 June 1941

Numerous clinicians are quoted in regard to what they have said about the relationship between cyphilis and hypertension These comprise three views

(a) that both arteriosclerosis and arterial hypertension are caused by syphilis
(b) that arteriosclerosis but not hypertension results from this infection
(c) that syphilis is not an etiological factor of importance in either condition

Because of the conflicting views this study was undertaken of 666 cases of hypertension admitted to Louisville City Hospital 1925 to 1930 2 000 control admissions were studied 79% with negative Wassermanns 21% with positive serum reaction 30 4% Negroes had positive Wassermann 9 4% of Whites had serological evidence of the infection

In the control group 25 5% with positive Wassermann Negroes 3? 6% with positive Wassermann whites 18 8%

Practically no difference was found in the incidence of syphilis in sexes of both Negro and white groups Reports of other studies are given

The author concludes that excluding cases of aortic insufficiency systolic arterial hypertension cannot be shown to be due to syphilis Syphilis may be a minor but not a major factor in the causation of diastolic hypertension and arteriosclerosis

HARRIS I   Hypertension i heart disease
Edinburgh M J 35 630 650 Nov 1928

This paper is an attempt to ascertain the clinical significance of abnormal venous pressure and also the mechanism by which it is brought about

The main section is preceded by a discussion of some elementary facts on the physiology of circulation The following conclusions are presented

1 A rise in venous pressure may either be due to a diminished cardiac output in which case the venous pressure will be paramount in the large veins near the heart or the rise of pressure may be a manifestation of the increased cardiac output The increased pressure will then make itself felt in the smaller veins more than in the larger

2 A high venous pressure does not invariably mean a serious condition of heart failure and a bad prognosis There is a variety of high venous pressure which simply means an increased cardiac action

3 There may be failure of circulation with a fatal termination in which the venous pressure remains low

4 There is a tendency to a rise of venous pressure in cases which show a rapid pulse rate

5 Short diastole no matter from which cause in the majority of cases is a factor in increased venous pressure

Tables and Graphs

HARRIS I ALDRED C N & ENGLISH A G H   Effect of high protein diet on arterial pressure in cases of hypertony
Lancet 1 1327 1328 June 8 1935

An attempt was made to re examine the part protein plays in cases of hypertony as regards both etiology and treatm nt The authors set out to discover the immediate effect which a high and low protein diet may exercise on high blood pressure The details of the experimental method are outlined Twelve bed patients comprise the sample

The authors reach the conclusion that when a high protein diet is given the arterial pressure stand in inverse ratio to the non protein nitrogen serum content When there is an adequate rise of arterial pressure the non protein nitrogen content is not increased and vice versa
Tables and Charts

HARRIS S E   Treatment of high blood pressure with special reference to management of vascular crises
M Clin North America 19 133 149 July 1935

Presentation of cases illustrating some of the common conditions met with in hypertension beginning with the most serious type of high blood pressure malignant hypertension

Report of blood pressure readings in college youth where high read ngs were found n many The significance of this unusual lability of the blood pressure for the future of the individual is not known

The general management of patients with hypertension and the treatment of symptoms arising from the various local and general vascular crises which occur in associat on with it is similar whatever the cause may be

The author suggests rest as probably the most useful remed al measure at our disposal The pat ent s mind must be put at ease Diets and drug therapies are discussed A pos ible factor in bringing about hypertension especially in the male is that of unsatisfied sexual desire

HARRISON C V & WOOD F Hypertensive and ischaemic heart disease a comparative clinical and pathological study
Brit.Heart J 11 205 229 No 3 July 1949
Comparative clinical and pathological studies have been made on 27 cases of hypertensive heart disease and 15 cases of ischaemic heart disease There were 12 controls At autopsy the following conclusions were drawn
1 Moderate degrees of coronary atheroma do not necessarily cause narrowing
2 In hypertensive cases the heart weight varies with the degree of failure during life and not with the height of the pressure
3 The coronary arteries vary sharply between hypertensive and ischaemic cases In the former they are large with smooth bones in the latter they are narrower and frequently occluded

HARRISON G F Nutritional deficiency painful feet high pressure in Hong Kong
Lancet 1 961-964 June 29 1946
The outstanding symptom of nutritional deficiency in prisoners of war in Hong Kong was painful feet At least 197 of the case records showed a high diastolic blood pressure at some stage
It might be that the cause of the main type of pain and of the high diastolic pressure was spasm of the blood vessels

HARRISON T.R BLALOCK A & MASON M F Effects on pressure of injection of kidney extracts of dogs with renal hypertension
Proc Soc Exper.Biol & Med 35 38-40 Oct 1936
Object of the experiment was to determine whether extracts prepared from ischemic kidneys removed from dogs with hypertension had a greater pressor effect than similar extracts of normal kidneys
Findings indicate that a relationship exists between experimental renal hypertension and the production in ischemic renal tissue of an increased amount of some pressor substance The findings are also compatible with the idea of a diminution in the rate of formation of a depressor substance in the ischemic kidney as a factor in the production of renal hypertension
Definite conclusions cannot be drawn until more is known concerning the chemical nature of the depressor and pressor agents
Tables

HARTMAN H R & GHRIST D G Blood pressure and weight
Arch Int Med 44 877 661 Dec 1929
A report of a study undertaken to determine the relationship if any that exists between the arterial blood pressure and body weight The data consisted of records of 2 04. consecutive registrants ages 15 or over taken from the file of the Mayo Clinic for June 1927 959 of the subjects were male 1 083 were female
The authors conclude that weight must be a dominant factor in determining systolic blood pressure Such a logical relationship cannot be drawn between diastolic blood pressure and body weight according to these data A possible explanation may lie in the lack of correlation in the male lack of uniformity of technique and instability of diastolic blood pressure
Charts

HASE H New blood pressure principle of anterior lobe of pituitary
Nature London 160 787 788 Dec 6 1947
A principle extracted from ox pituitaries was injected into rats rendered artificially hypotensial by adrenalectomy Blood pressure readings of each rat were taken before and after adrenalectomy injections began on the second day after adrenalectomy and were continued once daily as long as the rat survived The blood pressure was raised to normal levels and the injections had a cumulative effect the full pressure effect does not last 24 hours but the blood pressure does not revert to the original low level before treatment From their observations the authors reach the following conclusions
1 The anterior lobe of the pituitary contains a blood pressure principle
2 It seems probable that this principle is the cause of blood pressure anomalies met in certain diseases of the anterior pituitary lobe
3 There are indications that this factor has its share in the normal control of blood pressure this would mean that the regulation of blood pressure is partly hormonal

HASHIMOTO H AKATSUKA K TSUJII I & SHIRAISHI H Incidence of hypertension among urban Japanese
Ann Int.Med 7 615 624 Nov 1933
Data were derived from the records of the out patient department of Tokyo hospital 16 393 outpatients were examined 10 058 poor patients (3 530 male and 6 528 female) and 6 335 pay patients (2 546 male and 3 799 female)
Incidence of hypertension was observed for both groups of patients with breakdowns into age groups
Information collected on matters supposed to concern the tiology of hypertension were family histories of hypertensive patients diet body weight syphilitic infection urinalysis
The authors conclude ypertension is by no means rare among the urban Japanese since it is found nearly as frequently as among Americans and Europeans They suggest further that the higher incidence of hypertension among the Japanese relative to that among the Chinese may be due not to racial peculiarities but to the reaction of the Japanese to the conditions entailed in the more intricately organized industrial life of Japan
Tables

HAWKING F : Differential cell counts of pituitary gland in hypertension and endocrine disturbances
J.Path & Bact. 42 589 702 May 1936

It is the author s purpose to describe the results obtained during an examination of the anterior lo the pituitary gland in various diseases by the method of differential cell enumeration introduced by Ras The diseases chosen for study in this way were essential hypertension nephritis diabetes mellitus hyp thyroidism and Addison s Disease

In essential hypertension (12 cases) the percentage of basophil cells in the anterior lobe was found high in some but not in all cases It is concluded that this change is not of etiological importance thou may be a secondary phenomenon

In 8 of 12 cases of hypertension there was moderate invasion of the posterior lobe of the pituitary basophil cells but this was present also in 2 out of 3 pituitaries from normal cases and in several other pathological conditions studied It is concluded that this basophil invasion has no pathological sig
Tables

HAY J & INCE P : The treatment of anginal pain and raised blood pressure by diathermy
Lancet Lond 2 799 803 1926

The treatment of anginal pain is shown in several cases The treatment was done with diathermy never did any serious harm There were a few cases in which diathermy produced temporary dizziness faintness or caused excess sweating but nearly every patient expressed himself as feeling considerably

The charts show that in a number of the patients there was not only an immediate effect on the blo sure but that this improvement tends to persist for a time Even if the pressure tends to rise later th jective improvement often persists
Charts

HAYMAN J.M.JR Failure of salt restriction in treatment of hypertension
M Clin.North America 13 1021 1028 Jan 1930

A study of 41 hospital patients discharged over a period of 3 years with diagnosis of either essen hypertension or arteriosclerosis with hypertension whose systolic blood pressure on admission was 17 or over 20 had been given ordinary hospital diets 21 salt poor diets Ages sex distribution hospital and initial blood pressure range of the two groups was very similar Results

1 Of 21 patients on a salt poor diet 9 showed a fall in systolic pressure of 10 mm or more durin hospital stay

2 Of 20 patients given full diet 15 showed a fall in pressure

The histories of 3 patients who were subjected to more rigid regimen are then presented In these cases no reduction of blood pressure attributable to the salt restriction was evident during the period o servation

The author writes So far as my personal experience goes I have not been able to recognize an duction of high blood pressure which I could attribute with confidence to salt restriction nor does a crit review of the literature persuade me of its value
Tables

HEAD J.R Effect of high intrapleural pressure
Arch.Int Med 56 904 911 Nov 1935

The author states that high pressure in the pleural cavity acts directly on both the pulmonary and t systemic circulation On the former by collapsing the lung and on the latter by compressing the great

Collapse of the lung causes : (1) a decrease in the flow of blood through the collapsed lung (2) a in pressure in the pulmonary circulation (3) an increased strain on the right heart (4) a reduction in vital capacity

Compression of the great veins causes (1) a rise in the venous pressure (2) an insufficiency in return of venous blood and a decreased output of the heart Up to relatively extreme degrees of pressur these hindrances are compensated for by an increase in the tone of the vasoconstrictor center The firs of the strain on this compensatory mechanism is an exaggeration of the Traube Hering waves its tender for the peripheral resistance to give way during inspiration A time comes when the center can no longe fully compensate and the mean blood pressure falls below the critical level

HEALEY C.E & GUY C C Pseudohermaphroditismus masculinus externus associated with supraren hyperplasia and vascular hypertension case
Tr Chicago Path.Soc 13 517 538 June 1, 1931 also Arch Path 12 543 561 Oct 1931

Report of a case of a woman of 26 who died of cerebral hemorrhage Clinically her condition had b diagnosed as chronic diffuse nephritis hypertension hypogonadism and infantilism

Postmortem examination disclosed marked hyperplasia of suprarenal tissue associated with pseudo hermaphroditismus masculinis externus marked cardiovascular changes apparent absence of the pinea gland and an extensive hyperplasia of the lymphoid tissue in the wall of the intestine the mesenteric lym nodes and the malphighian bodies of the spleen The relationship of the suprarenal hyperplasia to the an lous development of the genital organs and to the hypertensive conditions is discussed
Plates

HEINBECKER P Factors limiting surgery for essential hypertension
Ann.Surg 126 535 544 Oct 1947

It is the author s thesis that the entire concept of over activity of the sympathetic nervous system as important and primary cause of essential hypertension should be abandoned He presents a new concept pathogenesis of essential hypertension which indicates how operations on the sympathetic nervous system modify the initiating factors of the essential hypertension

HENRY J P   Effects of temperature and exercise on venous pressure in the feet when in the erect posture
Am.J.Med 4 619 No 4 Apr 1948

The venous pressure in the foot in the erect posture was measured by cannulation to a vein in the dorsum The cannula was attached either to a water manometer or to a pressure sensitive tipped catheter which per mitted free movement of the foot It was found that the pressure is dependent upon the environmental temper ature as well as upon the activity of the limb When the subject is still the venous pressure attains approxim ately the full hydrostatic head regardless of the environmental temperature Standing walking at an environ mental temperature of 65 degrees and 75 degrees F will lead to a mean venous pressure at or less than knee level The same exercise when the foot temperature is maintained at 104 degrees and 113 degrees F will pro duce a mean venous pressure which supports a blood column extending up to the inguinal level The mechanism of development of the dependent edema observed in hot weather may be related to these observations It is suggested that in these conditions blood flow increases due to vasodilation and the rate of pumping of blood and lymph by muscle action does not increase correspondingly As a result the mean venous pressure may rise significantly above the normal level and edema develop

HENSTELL H   Pituitary gland and maintenance of blood pressure
Yale J.Biol & Med 5 531 544 July 1933

In 6 experiments performed on 5 cats under anesthesia and on one dog under no anesthesia there was no change in the blood pressure following intraventricular injection of varying doses of pitressin In one experi ment there was a fall of 32 mm and in another a rise of 16 mm The latter case was possibly due to trauma of the base of the brain the former was not Review of the clinical literature strongly suggests the intervention of the anterior lobe in the regulation of blood pressure
Tables

HERITAGE K SCARFF R W EVANS H & WRIGHT A.D   Discussion on relationship of hypertension to renal disease
Proc Roy Soc Med 36 551 564 Aug 1943

The following items are considered with illustrated cases (1) hypertension associated with bilateral renal disease (2) hypertension associated with unilateral renal disease (3) essential hypertension by Scarff Evans and Wright The authors make the following suggestions

1 The importance of the surgical kidney in hypertension should be written down rather than up

2 Never fail to make a biopsy of the renal parenchyma in hypertension while the kidney is exposed for splanchnicectomy

3 The sympathetic nerves should be divided at the same time as the kidney is removed when nephrectomy is done for renal disease in the presence of hypertension
Charts

HERMANN H MORIN G & VIAL J   Sur l action vaso motrice des doses infimes d adrenaline
C rend.Soc biol 122 1099 1101 1936

The finding that venous injection of very slight quantities of adrenaline had hypotensive effects in dogs has led to conflicting views as to whether the depressor mechanism was central or peripheral The authors incline to the former on the basis of experiments on dogs whose spinal cords had been destroyed In all such cases the administration of minute amounts of adrenaline produced no hypotensive effects As the quantity was in creased however the usual elevation of pressure followed the amount of elevation being proportional to the amount of adrenaline

HERMANN L G   The pathologic physiology of arterial hypertension in man
J.Med Cincin 17 499 503 1936 1937

The author discusses some of the factors reponsible for variations in the intra vascular pressure in health and in disease under the following headings (1) Clinical substances of the blood (2) Autonomic nervous system (3) Peripheral resistance to the flow of blood

He states   The fact however that extensive and painstaking search has failed to reveal any single factor of chemical or nervous nature which specifically and regularly induced hypertension seems to me very significant All of this work suggests that we may be dealing with a condition of multiple rather than single etiology

HERRELL W.E   Idiosyncrasy to tobacco report of a case
Proc.Staff Meetings of Mayo Clinic 13 No 1 Jan 1938

A case in which tobacco aggravated an already present vasospastic tendency The author believes that this case represents an excellent example of idiosyncracy to the foreign substance rather than an allergic or sensitivity phenomenon By idiosyncracy is meant an exaggerated reaction capable of production by overdose of a given substance rather than an abnormal tissue response which never occurs in normal individuals re gardless of dosage

HERRICK J F CORCORAN A C & ESSEX H.E   Effects of renin (kidney extract) and of angiotonin on renal blood flow and blood pressure of dog
Am.J Physiol 135 88 92 Dec 1941

The authors found that both renin and angiotonin decrease the blood flow in the renal artery and increase arterial pressure In a few observations on the flow in the femoral artery it was found that both renin and angiotonin caused a diphasic effect sonsisting of an initial transient decrease followed by a somewhat more pronounced and prolonged increase Pentobababarbital sodium anesthesia did not seem to alter the hemo dynamic effects of these substances
Tables Graphs

HERRICK, W W & TILLMAN A J B : Mild toxemias of late pregnancy relation to cardiovascular and renal disease

Am J Obst & Gynec 31 832 844 May 1936

The milder types of late toxemia vaguely called low reserve kidney recurrent toxemia or nephritis in their follow up and necropsy manifestations seem to resemble eclampsia and pre eclampsia in that their frequent results are general vascular disease with hypertension rather than nephritis The differences between the severe and milder types of non nephritic late toxemias are of degree not of kind

The role of the kidney in this disturbance is probably incidental and not fundamental This organ participates because it is such an important part of the circulation

Tables

HERRING P.S Hypertension its medical management

Mississippi Doctor 27 127 130 No 4 Sept 1949

1. After general observation of blood pressure and its variations the author adopts Stroud s classification of the stages of hypertension (1) Potential (2) Spastic (3) Intermediate (4) Sclerotic

2 The need for a thorough examination of the patient to ascertain the etiologic factors is pointed out and various therapeutic measures are noted The Kempner rice diet is dealt with in more detail

3 An outline of the author s plan for treatment is presented

4 Discussion follow concerning (a) hereditary influences (b) expected phyisologic and palliative treatment including comments in regard to sympathectomy

HEYER H.E & KEETON R W Arteriolar changes of skeletal muscle in patients with hypertension of varied origin

Am J Clin Path 11 818 827 Nov 1927

This study was undertaken to determine histo pathological changes of arterioles of skeletal muscle in patients with hypertension of various modes of origin

53 specimens were studied 47 biopsies and 6 autopsies The following conclusions were reached

1 Cases of hypertension with varied modes of origin revealed a decrease in the wall to lumen ratio below normal value in each instance

2 Hypertrophy of medial layer was present in every patient

3 Cases of acute glomerulonephritis revealed wall to lumen ratio slightly altered from normal value

4 These arteriolar changes apparently appear within a few months after development of the hypertension and are permanent

Tables Charts and Illustrations

HEYMANS C BOUCKAERT J.J & SAMAAN A Action de l acide carbonique et de l oxygene sur le tonus et sur l excitabilite reflexe et directé du systeme nerveux regulateur de la frequence cardiaque

C rend Soc biol 115 423-425 1934

Report of experiments into the nature of the humoral elements which act as reflex initiators of the action of those nervous systems (vagal sympathetic etc) which regulate the force and frequency of the heartbeat It was found that

1 Blood containing relatively large amounts of CO_2 directly stimulated the central cardio inhibitor elements of the vagi The same effect occurred with anoxemic blood

2 Similar results were obtained with CO_2 in the case of the peripheral cardio inhibitor nerves although in the case of anoxemic blood the phase of excitability was of short duration

3 The effects of anoxemic blood on the central cardio-accelerator nerves will be discussed in a later paper

4 CO_2 laden blood was found to stimulate the peripheral cardio accelerator elements of the sympathetic system

HEYMANS C & CAPET L Influences of magnesium and calcium on proprioceptive regulation of blood pressure (arterial)

Arch internat de pharmacodyn et de therap 71 164 172 Nov 1 1945

Magnesium sulphate has a depressor sometimes a paralyzing effect on the proprioceptors regulating arterial pressure calcium thioculphate counteracts by re establishing their regulatory capacities Exclusion of the four nerves reflexly modifying arterial pressure causes sustained high elevation of pressure followed by abrupt fall owing to cardiovascular collapse Calcium serves to protect the heart against the consequences of these sudden and extreme changes

HEYMANS C CASIER H & DELAUNOIS A.L Influence of alcoholemia on proprioceptive reflexes of pressure regulation

Arch internat de pharmacodyn et de therap 71 103 108 Nov 1 1945

Slight doses of alcohol are capable of producing an initial stimulation of the vaso hypertensive proprioceptor reflexes Increased dosage however depresses these reflexes and if large or continuous may cause them to disappear completely they return to normal however with the decrease in concentration of alcohol This finding holds for methyl as well as ethyl alcohol although the depressor effect is more prolonged in the case of the former

HILL D & TAYLOR S Blood pressure changes in anxiety states

Lancet 1 1382 1385 June 18 1938

The leucocyte counts total and differential the coagulation times and blood pressures have been recorded in 21 cases suffering from anxiety states The methods of estimation have been subjected to statistical evaluation With the exception of one case the series shows leucocyte counts and coagulation times falling within normal limits The blood pressure was found to be labile and sensitive in these cases but was neither raised

HENRY J P   Effects of temperature and exercl
Am.J.Med 4 619 No 4 Apr 1948

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Proc.Staff Meetings of Mayo Clinic 13 No 1 Jan 1938

A case in which tobacco aggravated an already present vasc
this case represents an excellent example of idiosyncracy to the f
sensitivity phenomenon By idiosyncracy is meant an exaggerated
of a given substance rather than an abnormal tissue response whic
gardless of dosage

HERRICK J F CORCORAN A C & ESSEX H.E   Effects of ren
blood flow and b

Am.J Physiol 135 88 92 Dec 1941

The authors found that both renin and angiotonin decrease the bl
arterial pressure In a few observations on the flow in the femoral ar
angiotonin caused a diphasic effect sonsisting of an initial transient dc
pronounced and prolonged increase Pentobababarbital sodium anesthe
dynamic effects of these substances
Tables Graphs

HINES E.A.JR Significance of vascular hyper reaction as measured by cold pressor test
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The cold pressor test is an index of vascular reactivity Vascular hyper reactivity as measured by the cold pressor test is an important etiologic factor in essential hypertension Vascular hyper reactivity may occur however as an inherited characteristic of persons who do not have hypertension The vascular hyper-reactivity of many of these persons represents an antecedent or a latent phase of essential hypertension As yet the percentage of originally normal hyper reactors who will have hypertension is unknown 38% of 21 originally normal hyper reactives have developed hypertension within 6 years whereas none of the normal hyper reactors have developed hypertension in this period
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It has been postulated that individuals who usually have normal blood pressure and are hyperreactive to the cold pressor test are prehypertensive individuals and that many of them will eventually have hypertension In this regard it is of interest that in this study the incidence of hypertension 20 years after the first admission to a clinic in the group of patients who had a positive family history of hypertensive disease is almost the same as the incidence of children who were hyperreactors in families in which one parent was a hyperreactor or had hypertension Furthermore of the 1 374 patients 58 stated at the time of the original examination that both parents had hypertension of these 52 or 81 6% had hypertension ten or twenty years later

HINES E.A.JR Hereditary factor in essential hypertension
Ann.Int.Med 11 593-601 Oct 1937

Data are presented concerning three areas of investigation

1 Correlation of the type of reaction to the cold pressor test and incidence of hypertensive disease in family history (Sample of 875 individuals)

2 Study of the reaction of twins to the test (Sample of 10 pairs of twins)

3 Study of the reaction of members of hypertensive and nonhypertensive families to the test (Sample of 256 individuals)

The findings suggest strong evidence to support the view that the hereditary factor plays an important role in the development of essential hypertension

The paper contains a review of research prior to 1937 concerning the hereditary factor in essential hypertension

HINES E.A.JR Reaction of pressure of 400 school children to standard stimulus
J.A.M.A 108 1249 1250 April 10 1937

A study of the range of variability of blood pressure as well as the actual blood pressure at any given time The 400 school children whose blood pressure was measured were between the ages of 6 and 19 years 192 were girls 208 boys

The observations revealed that 18% of the subjects were hyper reactive in respect to systolic and diastolic pressure The reaction of the blood pressure increases during the pre puberty and puberty period but the incidence of hyperreactors was found to be approximately the same in the different age groups The reaction of the diastolic blood pressure is much greater in children than in adults
Tables

HINES E.A & BROWN G.E The cold pressor test for measuring the reactibility of the blood pressure
Amer.Heart Jour 11 1 Jan 1936

A report of the observations extending over a 3 year period and the application of the cold pressor test to 371 normal and hypertensive subjects

The crucial question which the study poses is whether normal individuals showing hyperreaction to the cold pressor test represent potential hypertensives The evidence cited by the authors suggests an affirmative answer to this question

A conception is here presented that the abnormality of essential hypertension is an excessive response in the blood pressure to intrinsic and extrinsic stimulation This abnormality is an hereditary one which appears early in life and remains during life
Tables and Charts

HINES E.A.JR & BROWN G.E Hereditary factor in reaction of blood pressure to standard stimulus (cold) preliminary report
Proc.Staff Meet Mayo Clin 10 371 373 June 12 1935

Newer work on the mechanism of the production of high blood pressure in essential hypertension indicates that vascular and vasomotor reactions are of primary importance This is a preliminary report of a study of the possible hereditary factor in vasomotor reactions The cold pressor test was used over a period of three years.

The studies so far indicate that the vasomotor reaction follows an inherited pattern and that the excessive or hyperten ive type of reaction occurs in the families in which there is a hyperte isive diathesis

HINES E.A.JR & BROWN G.E Standard test for measuring variabil ty of blood pressure significance as ir dex of prehypertensive state
Ann.Int.Med 7 209 217 Aug 1933

The technique of the cold pressor test is described in detail with observations of the reactions of 230 subjects The findings reveal the effect of age rest drugs anesthesia sympa hectomy and the activity of the suprarenal glands on the individual s reaction to the test

The authors suggest that it is possible that the cold pressor test detects a constitutional or biologic abnormality in the case of certain individuals which leads to the development of essential hypertension
Tables and Charts

HILL L.B Psychoanalytic observation on essential hypertension
Psychoanalyt.Rev 22 60 64 Jan 1935

The report of a case of essential hypertension which the author feels contributes to an understanding in one instance of the relation of constitution and experience to symptom formation

The author feels that specific factor in the appearance of essential hyperten ion was a familial predis position to vascular hypertension The non-specific factors included in his view the patient s reaction to a dominating mother whose significance in the patient s super ego was greater than his father s Finally the exciting factor precipitating the illness was a certain trauma revealed in the course of psychoanalytic treat ment

HILLMAN C C LEVY, R L STROUD W D & WHITE P.D Analysis of medical records of 22 741 officers of the United States Army
J A.M A 125 699-701 July 8 1944

A preliminary statement of the purpose of this study of the records of 22 741 officers of the U.S.Army the sources of the records plan and procedure and a general survey of the material Information presented in this paper include (1) Status at time of study (2) Age distribution at first examination (3) Length of service at first examination (4) Length of observation period (5) Distribution by branch of service (6) Rank at first examination
Tables

HIMMELSBACH C K Relation of drug addiction to autonomic nervous system results of cold pressor tests
J Pharmacol & Exper Therap 73 91 98 Sept 1941

The blood pressure response of addicts to a standard cold stimulus is greater than normal and recovery is slower than normal This abnormal reaction suggesting that hyper-irritability of autonomic centers is associated with addiction slowly reverts to normal in both particulars following the withdrawal of morphine The acute effect of morphine in normal persons and in post addicts is to reduce the blood pressure response to cold and to accelerate recovery In this the effect of morphine resembles the action of neither adrenergic nor cholineric drugs but is similar to the effect of hypnotics analgetics and anesthetics
Graphs Tables

HINCHEY J.J HINES F.A & GHORMLEY R.K Osteoporosis occurring during potassium thiocyanate therapy for hypertensive disease
Am.Jour.Med.Sc CCXV 548 1948

Further investigation was undertaken when after the extensive use of potassium thiocyanate in the treat ment of hypertension occasional instances of osteoporosis and arthralgia were noted Records of 5 000 patients with hypertension at Mayo 1939 1944 were reviewed 360 had received potassium thiocyanate Unexplained osteoporosis occurred in 7 or 2% of the total No similar syndrome was found in more than 5 000 consecutive cases of hypertension in which this drug was not used Evidence at hand seems to suggest slight and prolonged interference with calcium metabolism as a possible mechanism for production of the syndrome Adequate calcium intake should be assured for persons taking potassium thiocyanate Use of this drug may be contra indicated in the presence of bone melacia such as senile osteoporosis or osteitis deformans likewise its use may be inadvisable in the presence of fracture not as regards union of the fracture but because any interfer-ence with calcium metabolism in the presence of increased potassium thiocyanate requirement might pre cipitate osteoporosis
Tables Illustrations

HINES E.A.JR Background and treatment of hypertensive disease
South.Med.Surg 103 301-306 June 1941

Most hypertensive patients are dynamic and hard driving This personality does not develop with hyper tension but has been characteristic of the patient long before the onset of hypertension

Vascular hyperreactivity may be inherited and is a second factor which further elevates the blood press ure The mechanism of the production of vascular hyperreactivity is not well understood There is no speci fic treatment for hypertensive disease Control should be attempted in the pre hypertensive stage of this disease

HINES E A.JR Range of normal pressure and subsequent development of hypertension follow up study of 1 522 patients
J A.M.A 115 271 274 July 27 1940

A sample of 1 522 patients was studied 40 3% (614) males 59 7% (906) females Average of women at the time of first interview was 35 5 years that of men 39 1 years

Records of patients who returned to the clinic 10 to 20 years after the original visit is reviewed Analysis is made of incidence of subsequent hypertension as correlated with the first reading of blood pressure recorded or original visit This first reading of blood pressure is thought to represent response of blood pressure to nervous stress

Results support the idea that excessive variability or excessive responses of the usually normal blood pressure to stimulation should be considered as evidence of a possible prehypertensive state The range of normal blood pressure is not definitely established by this study It is recognized that age is a factor in the incidence of subsequent hypertension but in general results hold true regardless of the age of patients
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Proc.Staff Meet.Mayo Clin 15 145 148 March 6 1940
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Tables

HINES E.A & BROWN G.E The cold pressor test for measuring the reactibility of the blood pressure
Amer.Heart Jour 11 1 Jan 1936
A report of the observations extending over a 3 year period and the application of the cold pressor test to 571 normal and hypertensive subjects
The crucial question which the study poses is whether normal individuals showing hyperreaction to the cold pressor test represent potential hypertensives The evidence cited by the authors suggests an affirmative answer to this question
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The authors suggest that it is possible that the cold pressor test detects a const tutional or biologic abnormality in the case of certain individuals which leads to the development of essential hypertension
Tables and Charts

HINES E.A JR & LANDER H.H   Factors contributing to development of hypertension in patients suffering from renal disease

J A.M.A 116 1050 1052 March 15 1941

The results of this study show in a series of 264 patients who had various types of urologic diseases that those patients who had a high normal blood pressure on their original visit were 4 to 5 times as likely to have hypertension subsequently as were those who had a low normal blood pressure regardless of the type or extent of the urologic or renal lesion and regardless of whether the onset of symptoms of the disease of the urinary tract occurred before or after the original blood pressure reading In respect to the correlation between the original blood pressure and the subsequent development of hypertension there was little difference between the series of patients suffering from urologic disease and in control series of persons who had no renal or uro logic disease

The data seem to cast some doubt on the importance of renal disease producing hypertension in the series as a whole and call attention to the importance of exercising caution in attributing a role of primary import ance in the development of hypertension when there is an associated renal disease as in the development of hypertension when no renal disease is present

Tables

HINES E.A JR & PIPER M C   Identical twins with essential hypertension and prolapse of uterus

Proc.Staff Meet Mayo Clin 12 815-816 Dec 22 1937

Several cases of hypertension affecting identical twins have been reported However the number of these is not adequate as yet to permit definite conclusions concerning the importance of the hereditary fector in es sential hypertension

In the case history of identical twins both of these had congenital contracture of the right fifth finger and their pelvic musculature was inadequate This suggests that the ability of the vascular dystem to withstand strain is influenced by genotypic factors

HINSHAW H C & RUTLEDGE D L   Lesions in superior mediastinum which interfere with venous circulation

J Lab & Clin.Med 27 908 916 April 1942

According to the authors simple inspection is adequate to renal evidence of serious venous blockage in the superior mediastinum The increase in venous pressure in the arms can be roughly shown by determina tion of the level at which the veins empty on elevation of the arms

The prominence of collateral veins bears no close relationship to severity of symptoms As collateral veriocosities increase in size symptoms may regress

HINTON J W   End results of thoracolumbar sympathectomy for advanced essential hypertension

Bull.New York Acad.Med 24 239 252 April 1948

In a 5½ year period there have been 455 patients operated upon for essential hypertension and most of these patients have fallen in the advanced stages of hypertensive disease Among these patients there were 183 males and 272 females The total deaths in and out of the hospital were 74 or total mortality 16% The causes of deaths occurring in the hospital were in the following order cerebral cardiac and renal The out of the hospital deaths are in the following order cardiac cerebral and renal

Tables

HINTON J W & LORD J W.JR   Surgical treatment of essential hypertension comparison of results of classic Smithwick operation and extensive thoracolumbar sympathectomy

S Clin.North America 28 290 293 April 1948

The authors believe that it is evident that the extensive sympathectomy which includes removal of the sympathetic chain from T3 or 4 through L2 or 3 has a more profound effect on the postoperative diastolic blood pressure than the classical Smithwick sympathectomy of T8 or 9 through L2 On the other hand the less extensive operation has a lower in hospital mortality rate and more patients are pleased with their con dition than with the extensive sympathectomy The authors conclude that the more radical procedure is val uable in good risk patients of the younger age group while all others should have the typical Smithwick thora columbar sympathectomy

Tables

HINTON J W & LORD J W.JR   Selection of patients for thoracolumbar sympathectomy description of set of rules for elimination of failures and fatalities

Ann Surg 127 681 684 April 1948

On the basis of experience with 375 hypertensive patients undergoing thoraco lumbar sympathectomy the authors arrived inductively at a set of rules which would have eliminated 30 of the 38 deaths which occurred in this series either in the hospital or within 6 months post operatively

A discussion of the rules and the definitions on which they are based is given Indications for thoraco lumbar sympathectomy are

1 All cases are operable in which no contra indication ruled

2 From viewpoint of the minimal involvement operation is probably advisable in patients with per sistent hypertension associated with definite though minimal objective changes in any one of the 4 systems cerebral eyes cardiac and renal

Tables

HINTON J W & LORD J W JR : Analysis of surgical failures and fatalities following thoracolumbar sympathectomy for essential hypertension

New York State Med J 48 1714 1717 Aug 1 1948

To rule out kidney disease in essential hypertension is most difficult The tests for kidney function including the nonprotein nitrogen urea nitrogen and creatinine in the blood plus urea clearance and concentration tests are not sufficiently delicate to forecast kidney destruction until the process is far advanced In this group of patients the end results are the least satisfactory and the mortality is the highest

If the four major organs involved in essential hypertension are studied the eyes cerebral vessels heart and kidneys and the disease in each organ is graded from 1 to 4 plus, it affords a means for forecasting the probability of an immediate and late mortality according to the degree of involvement of the four organs

HOFER B : Chemische Untersuchungen uber die Erregung des Nervus accelerans unter dem Einflusse von Wasserstoffionen und kapillaraktiven Substanzen

Biochem Zschr 246 46 58 1932

The experiments show that the excitability of the nervus accelerans increases when there is a slight decrease of the p H value whereas no change occurs when there is a light increase The beat of the auricle decreases however when the p H count decreases

The preceding paralysis of the nervus accelerans caused by Ergotomin can be eliminated by treating the auricle and heart with caprylic alcohol

The experiment verified that pre treatment with caprylic alcohol atropine changes from a vagus paralyzing agent to a vagus stimulating agent

Since the effect of sympathetic paralyzing agents is eliminated by capillary activating agents it can be assumed that the surface tension has some relation to the inhibitory mechanism

Graphs

HOFMANN H The effect of sedatives on blood pressure

Arch f exper Path u Pharmakol 183 127 137 1936

The effect of sedatives on the blood pressure of white rats was tested The following dangers were used (A) Chloralhydrat (B) Poraldehyd, (C) Quylenhydrat (D) Urethan (E) Veronal Natrium (F) Liminal Natrium (G) Dial Ciba (H) Proponal

All drugs lowered the blood pressure

HOLMAN E Significance of temporary elevation of blood pressure following splenectomy with particular reference to role of spleen as regulator of circulation

Surgery 1.688 702 May 1937

Present studies attribute important functions to the spleen as a reservoir of blood and as a regulator of circulation The open circulation of the spleen is unique in the body and lends itself admirably to such function Such an open circulation is comparable to that of a varicose aneurysm and 7 cases are presented to illustrate that the general blood pressure is elevated immediately following the removal of a large spleen in much the same way as it is following the excision of a large peripheral arteriovenous fistula

The two factors responsible for the temporary elevation of blood pressure following the excision of a varicose aneurysm or arteriovenous fistula are (1) an increase in peripheral resistance (2) distention of the circulatory bed by the volume of blood which has increased in the presence of the fistula

It is suggested that the same factors are probably responsible for the elevation of blood pressure following splenectomy and that proceeding paripassu with the gradually increasing storage capacity of an enlarging spleen there occurs a gradually increasing total blood volume

The remarkable concentration of blood following splenectomy suggests that this increase in blood volume is largely one of dilution and that the low red cell count and anemia accompanying splenomegaly may be due in part to a storage of red cells in the greatly enlarged spleen

Charts and Plates

HOOBLER S W MANNING J T (et al) Effects of splanchnicectomy on blood pressure and on cardiac and renal function

J Laborat Clin M 33 1485 No 11 Nov 1948

106 hypertensive patients were studied before and 10 to 16 months after supradiaphragmatic splanchnicectomy (Peet) 31 control patients acceptable for the operation who did not undergo surgery were re examined 10 to 18 months later under similar conditions These patients were comparable to the operated group in age sex height of blood pressure and duration of hypertension and were treated by the usual medical methods including mild sedation in some cases

Though only 12 of the patients had a diastolic blood pressure below 90 after the operation the experimenters believe that definite evidence showed in certain of the other hypertensive patients that the operation improved their clinical status when compared with the control subjects

16 of the splanchnicectomized patients showed a 20 mm decline in diastolic blood pressure compared with 17 patients who had experienced slight increase in pressure one year after operation In general the subjects in the group which improved were younger had a higher initial blood pressure contained more females and showed a greater fall in blood pressure after tetraethylammonium than did those in the group showing poor results

Tables

HORINE E F & WEISS M.M Retinal changes of arteriosclerotic heart disease and essential hypertension
Arch Ophth 6 535 543 Oct 1931

A general article in which the authors arrive at the following conclusions

1 The blood pressure is elevated in essential hypertension but not in arterio sclerotic heart disease

2 Retinal changes in essential hypertension are quite different from those of simple arteriosclerosis

3 The terms albuminuric and nephritic retinitis are etiologically inaccurate and should be discarded

4 When referring to patients with essential hypertension the term arteriolar sclerotic retinitis should be used in place of arteriosclerotic retinitis

5 Retinal arteriolar sclerosis is usually progressive and once developed is permanent

6 The persistence of retinal arteriolar sclerosis permits of a diagnosis of hypertension even if blood pressure is normal

7 Prognostically the changes in the fundus are of definite value

HORN H KLEMPERER P & STEINBERG M F Vascular phase of chronic diffuse glomerulonephritis clinicopathologic study
Arch.Int.Med 70 260 283 Aug 1942

Investigation of 48 consecutive cases of chronic diffuse glomerulonephritis (selected 1927 1938) Especial attention was being focused on character of arterial changes in all viscera Independent evaluation of clinical data was also made

1 Division of disease into slowly progressive and accelerated phase based on varied vascular findings Histologic vascular lesions peculiar to each group were described in detail

2 Correlation of clinicopathologic features was then determined It was concluded that arterial alterations in both group represent anatomic equivalents of clinical picture designated malignant hypertension

3 Severe hypertension was considered a potent etiologic force in production of miscellaneous diseases in which accelerated arterial changes were present

4 Vascular lesions once established contribute importantly to advancement of renal process and intensification of the clinical picture
Tables and Illustrations

HORN W.S Clinical aspects of arterial hypertension
Texas State J.Med 39 421 426 Dec 1943

1 Evaluation of normal blood pressure standards
2 Discussion of the mechanism of arterial hypertension and blood pressure type
3 Prevalence of hypertension
4 The important role of heredity in hypertension
5 Secondary hypertension
6 Headaches in hypertension the heart and kidney in hypertension
7 Essential hypertension etiology heart kidney renin prognosis (reference to Keith and Wagener classification)

HORNS H L Association of hypertension and mitral stenosis
Am.Heart J 28 435-439 Oct 1944

The material here considered in 144 cases of proved mitral stenosis was taken from autopsy records The age range was 20 to 87 years 30% male (43) and 70% female (101) The control group was a stratified sample of 288 cases matched on age and sex randomly selected from the outpatient clinic

From the evidence presented nothing can be concluded concerning the effect of hypertension upon the clinical course of mitral stenosis
Tables

HORST K BUXTON R.E & ROBINSON W.D Effect of habitual use of coffee or decaffeinated coffee upon blood pressure of normal young men
J Pharmacol & Exper Therap 52 322 337 Nov 1934

Seven men 21 to 25 years of age received coffee estimated to contain caffeine equivalent to a dose of 3-4 mgm per kilogram of body weight or like quantity of decaffeinated coffee (or bouillon) once daily for periods of 3 to 8 weeks Results

1 During the period on coffee the blood pressure was usually higher than that on decaffeinated coffee increase varying from very slight to distinct in different individuals

2 Motor function was changed throughout the periods on coffee

3 When the coffee was withdrawn the blood pressure quickly returned to the level found after decaffeinated coffee but in both motor tests the performance was impaired during the first week after the withdrawel of coffee

4 During periods on decaffeinated coffee the blood pressure was not very different from that when a control beverage (bouillon) was administered In the acquired motor skill performance on decaffeinated coffee was essentially the same as that when bouillon was administered or when no special beverages were taken
Tables and Charts

HORST K & JENKINS W L Effect of caffeine coffee and decaffeinated coffee on blood pressure pulse rate of men of various ages
J Pharmacol & Exper Therap 53 385 400 April 1935

Investigation into the duration and magnitude of the change in reaction time elicited by a single dose of coffee or caffeine For purposes of control the reaction time after decaffeinated coffee was also studied

16 men in the third sixth seventh eigth decades of life received coffee or caffeine plus decaffeinated coffee on 1 to 2 days of each week and decaffeinated coffee on the intervening days for a period of from 3 to 14 weeks Results

JAYLE G.E & SCHACHTER M   Pituitary body and glaucoma statistical study on characteristics of arterial tension during glaucoma

Presse med 54 51 52 Jan 26 1946

Some recent studies have made it possible to raise the question of the hyperpituitary determination of glaucoma The authors are concerned with validating this hypothesis by a statistical study of arterial tension associated with glaucoma

The study of 45 cases of chronic glaucoma permits the following statements

(a) Arterial hypertension is very frequently encountered It was found in 75 55 of 100 cases as against 28 out of 100 cases of normal tension and 4 45 out of 100 of hypotension These figures are statistically very probable

(b) The characteristic tension level according to their statistics is of the order 16 (plus or minus) 3 03

(c) With regard to frequency of hypertension in other hyper pituitary syndromes glaucoma occupies a place next to Cushing's syndrome

Tables

JENSEN J   Adrenalin test

Am.Heart J 5 763 780 Aug 1930

Under approximately standard conditions a series of subcutaneous injections of 1 cc of adrenalin were given to a number of normal persons patients with hypertension and others in whom the reaction was thought to throw light on the phenomena observed in hypertension

A Persons with normal cardiovascular systems responded with a slow rise and a subsequent slower decrease of pressures

B Cases of hypertension fell into two groups clinically indistinguishable

(1) No definite change could be ascribed to the first injection of adrenaline

(2) Cases c marked hypertension responded with brisk and intense increase of systolic blood pressure In cases of early or intermittent hypertension the findings were like those of the former group of advanced hypertension but less pronounced

Diastolic pressure decreased after all the injections but the time required to return to normal was longer in the patients with hypertension than in the normal persons Increase in heart rate and occurrence of cardiac irregulari es were not influenced by the state of hypertension or by a repetition of the test

Blood pressure reaction of adrenalin in hypertension did not depend on level of blood pressure size of heart presence or absence of kidney disease or level of blood calcium

The clinical adrenalin reaction is not due to peripheral vasoconstriction

JERGESEN F.H   Hypertension with retroperitoneal ganglioneuroma and softening in brain and spinal cord case in young man

Arch Path 15 340 345 Sept 1933

A case of hypertension in a young man is reported A small ganglioneuroma histologically moderately mature was found in the retroperitoneal region near the left kidney Marked arteriosclerosis was present in the kidneys brain and spinal cord The brain and spinal cord showed multiple areas of hemorrhagic softening There was moderate arteriosclerosis in the heart with mild involvement of the arterioles of the lungs liver supra enal gland pancreas intestines and skeletal muscles The left testis was maldeveloped

Although hypertension not otherwise explainable has been observed associated w th a type of tumor embryologically related to the tumor in this case the high blood pressure in this patient can probably be explained best on the basis of the vascular and renal changes The presence of the gangl oneuroma was most likely only coincidental

Photographic illustrations

JEILER A   Problem of blood pressure in young persons who are active in sports

Schweiz med Wchnschr 65 776 779 Aug 24 1935

A study of the blood pressure of young people aged 14 to 20 years all of whom had been in tra ning for some time All boys with kidney or heart disease were excluded

It was found that about 22% of the boys had a blood pressure of over 140 mm None of the e hyperton c boys could have been recognized by showing any objective or subject ve symptoms of any d se e

Tables

JOHNSON C.A & LUCKHARDT A.B   Effect of raised intrapulmonic p essure upon knee jerk arterial blood pre sure and state of cons ou ness

Am.J Physiol 83 642 652 Jan 19 8

In the dog raised and ma nta ned intrapulmonic pres ure leads to a sharp drop in the gen ral arter al blood pressure accompanied by a dim nution in the knee jerk f the a ral ho ked or i under leep ane the sia or to a pseudo-augmentation of the jerk if the an mal s under 1 ght anesthes a The effect of th s procedure on the knee jerk are due for the most part in either case to change n circu at on through the bra and anemia and asphyxmal depress on Some evidenc s pre ented howev r upport ng the vi w that the d minution of the knee jerk observed during ra sed ntrapulmun c pres ure may be due to r flex inh b tory effect on the knee jerk cent r as a result of the mechanical st mulat on of the sen ory f b rs of the vagus

Graphs

JOHNSON J E   Devices in management and treatm nt of e sent al hypertension

M Times New York 4 252 S pt 1946

1 Reg rdless of the particul r et ological v ew taken there an b no leg t mate cient f doubt that emotions may affe t blood pressure reading

2 The author d scribes the plan for the management of the mental anx eties of the hypertensive p t ent regard ng h s blood pre sure read ng and th r signif ance He llu trate ts u e w th a eport of a ca e in wh ch th s method was employed

3 The problem of the nervous hypertensive is how to get final readings that will represent pressures he would have if all disturbing psychic (emotional) factors were eliminated The author describes devices he used initially to filter out disturbing influences and which he then turned into therapeutic service

4 These tests will aid the doctor (a) to select neurogenic hypertensive from organic hypertensive (b) to prepare selected patients for psychotherapy (c) to establish patients on psychotherapy

5 The article concludes with a few useful pointers in selecting suitable cases for the above methods

JOHNSON J.R Effect of carbon arc radiation on cardiac output
Proc.Soc.Exper.Biol & Med 31 649 650 March 1934

A total of 16 irradiations was given to a group of 5 normal controls In every case but one exposure was followed by an increase in the cardiac output reaching a peak on the second or third day and returning to normal by the fifth or sixth day The increase ranged from 12 to 31% average 20% The blood pressures showed an average drop of 6 mm for systolic and 8 mm for the diastolic pressure

The hypertensive group basal blood pressure 191 128/121 74 was made up of 6 patients with essential hypertension and 1 with interstitial nephritis Total of 27 irradiations resulted in every case but one in a fall in blood pressure average drop 19 mm systolic and 10 mm diastolic Cardiac output increased in 16 instances by an average of 34% decreased in 8 by an average of 22% showed no change in 4

The author comments upon a chart representing changes in cardiac output and in systolic blood pressure after irradiation

These changes are quite temporary as a rule and do not outlast the erythema to any extent

JOHNSON J.R POLLOCK B.E MAYERSON H S & LAURENS H Effect of carbon arc radiations on blood pressure and cardiac output
Am.J Physiol 114 594 602 Feb 1936

The changes in cardiac output blood pressure oxygen consumption pulse rate and hemoglobin content have been studied in a group of dogs and in normal and hypertensive men after single erythema producing doses of carbon arc radiation Results

1 The outstanding effect in the dog is a diminution in both blood pressure and cardiac output

2 In normal men the blood pressure shows a slight lowering lasting 1 to 2 days accompanied by an increase in cardiac output averaging 21% Only insignificant changes are found in oxygen consumption

3 In hypertensives there is a consistent and more marked lowering particularly of the ystolic blood pressure The cardiac output increased in 21 instances decreased in 6 and showed no significant change in 5 Changes in oxygen consumption and pulse rate are small and inconsistant Hemoglobin changes indicate that as a rule whenever the cardiac output increases there is a corresponding increase in the blood volume and when it decreases there is possibly a diminution in blood volume
Charts

JOHNSON V & A Secondary rise following peripheral splanchnic nerve stimulation
Am.J Physiol 99 160 166 Dec 1931

There is much confusion concerning the cause of the secondary rise in blood pressure following peripheral splanchnic nerve stimulation Accordingly the authors decided to observe 60 dogs under ether or barbital anesthesia They reach the following conclusions

1 The secondary rise in blood pressure on peripheral splanchnic stimulation is partly due to the secretion of adrenalin from the adrenals and partly due to some other factor for it is seen in modified forms after double adrenalectomy

2 The residual secondary rise is not due to reflexes contraction of the spleen or liberation of a pressor or cardio accelerator substance from the liver and is probably not due to increased cardiac output Nor is it the rsult of any sort of intermittent after discharge from the stimulated region of nerve or from the coeliac ganglion

3 It is believed to be a peripheral phenomenon involving a splanchnic nerve end organ mechanism This end organ may be chromaffine tissue liberating an adrenalin like substance or some other tissue possibly the blood vessel musculature elaborating a pressor substance (i e Cannon s sympathin) Or it may be rhythmically contrasting vascular musculature
Charts

JONES H W Management of case of essential hypertension
Practitioner 146 72 76 Feb 1941

The first essential point in the management is to determine principle etiologic factors in a given case The author mentioned in particular glandular dysfunctions and hypertensive diathesis

As regards management itself the following areas are dealt with

1 Prevention of mental and physical strain with adequate exercise and adequate indulgence in alcohol and tobacco

2 Diet and its application in cases of obesity

3 Use of drugs sedatives vasodilators and diuretics

4 Spa treatment

5 Diathermy

6 Surgical intervention

JUDAH L.N Blood pressure in group examinations (of University of Illinois students)
Indust.Med 8 165 April 1939

The ability of subconscious excitement to raise the blood pressure temporarily has been examined in this study The medical records of 2 557 male students of the University of Illinois were tabulated for that purpose This article is extremely short and does not give the details of the study

KABAT H., MAGOUN H W & RANSON S W   Electrical stimulation of points in forebrain and mid brain resultant alterations in blood pressure
Arch.Neurol & Psychiat 34 931 955 Nov 1935
The present paper deals in detailed fashion with the location of the points in the interior of the forebrain and midbrain which on stimulation yield changes in blood pressure In this series 50 cats were employed and 7 700 points in the brain stimulated
The response of elevation of the blood pressure has been traced by stimulation and those points stimulation of which failed to affect significant rises in blood pressure are reported The authors state that only very slight and sometimes no acceleration of the heart rate accompanied the rises in blood pressure
Evidence is presented that the rises in the blood pressure are independent of somatic movements or changes in the respiratory rhythm
Depressor responses were also traced
The results are discussed in their relation to the hypotheses that sympathetic and parasympathetic centers are present in the forebrain
Charts Diagrams

KACHELRIES F   Blood pressure at ages of 50 to 70 years in healthy and sick individuals
Ztschr.f.Kreislaufforsch 25 65 74 Jan 15 1933
A study of 2 527 cases to determine a norm for the blood pressure of 50 to 70 year old people
The author found
1 Blood pressure is lower than the norm in all gastric affections
2 Blood pressure increases with age
3 Blood pressure decreases in patients with cardiac diseases but over the years reaches and passes the norm again
Tables

KANNER L   Adrenalin blood pressure curves in dementia praecox and emotional psychoses
Am.J.Psychiat 8 75 96 July 1928
A study of blood pressure curves of 34 patients of unquestionable dementia praecox (29 males 5 females) and 9 cases of manic depressive psychosis (8 male and 1 female) The blood pressure readings were obtained after subcutaneous injection of adrenalin chloride solution Results
1 All 34 dementia praecox cases after adrenalin chloride injection yielded typically cagotonic blood pressure curves
2 Five cases of either manic excitement or depressive agitation yielded typical sympathicotonic curves
3 Three cases of stuporous melancholia presented pronounced vagotonic adrenalin blood pressure curves
The author recommends the adrenalin blood pressure tests should become a matter of routine in cases of dementia praecox and emotional psychoses
Charts and brief description of each case are presented

KAPERNICK, J.S   Blood pressure in essential hypertension effect of several reputedly hypotensive drugs
Am.Heart J 26 810 622 Nov 1943 abstr Proc.Staff Meet Mayo Clin 18 187 190 June 16 1943
A study intended to assay the actual hypotensive effects of a number of commonly used and widely recommended drugs on patients who had persistently elevated blood pressure The patients were selected deliberately from a group of persons resident in a state hospital for the insane All were hypertensive males ages 38 to 70 years Control group of institutional employees with abnormal blood pressure Drugs used were theobromine theominal iocapral aminophylline phenobarbital erythrol tetranitrate and 2 proprietary hypotensive agents hepvise and allimin
Conclusions On the basis of this study it may be reasonably concluded that certain drugs when administered continuously in optimal dosage for periods of 30 days do not possess any significant hypotensive effect upon the blood pressure of hypertensive patients Furthermore the author is strongly inclined to question the effectiveness of chemically similar drugs of which the chosen preparations may be considered representative samples
Charts

KAPLAN B.I CLARK E & De la CHAPELLE C.E   Myocardial hypertrophy of uncertain etiology associated with congestive heart failure with consideration of role of antecedent hypertension
Am.Heart J 15 582 596 May 1938
43 cases of preponderant left ventricular hypertrophy of uncertain etiology associated with congestive heart failure have been analyzed The possible role of antecedent hypertension in the genesis of cardiac hypertrophy was tested by comparing the incidence of renal arteriolar sclerosis in this group of patients with that in 269 non hypertensive subjects of similar age and in 69 patients with essential hypertension who died in congestive heart failure
Renal arteriolar sclerosis occurred in 1 57 of nonhypertensive patients and in them bears a relation to age In patients with chronic hypertension who died in congestive heart failure sclerosis of the renal arterioles was encountered in 82 57 whereas in 42 cases of cardiac hypertrophy of uncertain etiology the incidence of this lesion was only 30 9%
Evidence is presented which suggests that antecedent hypertension played a part in the development of cardiac hypertrophy in many of the 18 cases of myocardial infarction which are included in this group
Tables

KARANI S.B   Hypertension and unilateral renal dise se
Post Grad M J 23 482 489 Oct 1947
This is a review of the pathogenesis of congenital megalo ureter with ascending pyelonephritis the causes of renal ischemia and the role of renal ischemia in the production of hypertension
A case of congenital megalo ureter and pyelonephritis in a 13 year old boy is described Blood pressure was restored to normal after nephro ureterectomy
Plates and Charts

KATOH M   Effect of synephrin upon pressor effect of adrenalin
Folia pharmacol japon (Brev) 27 18 July 20 1939
The author investigated the effect of sympatol upon the pressor effect of adrenalin in rabbits Sympatol was given intravenously 5 minutes before adrenalin injection The magnitude of adrenalin effect after sympatol injection is expressed by the dose of adrenalin which without previous administration of sympatol elicits equal rise of blood pressure
The pressor effect of adrenalin increased by previous administration of sympatol This increase of adrenalin effect after sympatol is in the limit of this experiment directly in proportion to the dose of sympatol For the same dose of sympatol the ratio of the pressor effect of adrenalin after sympatol (expressed in sympatol) to the actual dose of adrenalin is higher at small doses of adrenalin than at larger doses
The above mentioned ratio that is the rate at which the pressor effect of adrenalin is strengthened by sympatol depends not only upon the dose of sympatol which strengthens but also upon that of adrenalin which is strengthened

KATOH M   Difference in pressor action between adrenalin and sympatol consideration on point of attack the Angriffspunkt
Folia pharmacol japon (Brev) 26 99 100 Jan 20 1939
When a cat receives previous intravenous administration of a large do e of sympatol in close succession it fails to respond to sympatol with the usual blood pressure rise while it does so to adrenalin
This failure of sympatol hypertension is due neither to the cardiac failure nor to the excitation of the vagus mechanism In the usual manner of explanation the point of attack of adrenalin may be considered to be more peripheral than that of sympatol
In cats the pressor effect of adrenalin is easily reversed by previous administration of ergotomin while that of sympatol is not Accordingly t appears in opposite to the former postulate that the point of attack of sympatol lies more peripheral than that of adrenalin but an intravenous injection of atropin before or after ergotamin prevents adrenalin from eliciting the usual reversed effect

KATZ L.N FRIEDMAN M RODBARD S & WEINSTEIN W   Genesis of renal hypertension
Am.Heart J 17 334 356 March 1939
The genesis of the hypertension following renal ischemia was re investigated in an attempt to demonstrate a humoral mediator in hypertensive animals It was found that the severity and persistence of the effects of renal ischemia depend on the presence of a normal kidney This indicates that hypertension depends on the rat o of ischemic to normal renal tissue Other findings were
1 Distemper caused an alleviation or disappearance of renal hypertension the hypertension recurred when the distemper was cured
2 Partial thyroparathyroidectomy did not affacte the blood pressure in renal hypertension
3 Histologic examination of ischemic kidneys in which ischemia has been present as long as six months faired to reveal any definite abnormalities
4 Cross transfusion of several liters of whole blood for 18 or more hours between trained unanesthetized dogs with persistent renal hypertension and trained unanesthetized bilaterally nephrectomized non hypertensive dogs failed to reveal any pressor response in the non hypertensive dogs
5 Perfusion of large quantities of heparinized blood over several hours from an anesthetized dog with persistent renal hypertension into the isolated denervated hind limb failed to reveal any vaso pressor action
6 A temporary hypertension lasting several hours was found to follow uni or bilateral nephrectomy This did not occur in control mock operations It is suggested that the transient hypertension following nephrectomy is neurogenic in origin
Tables and Charts

KATZ L.N & LEITER L   Present conception of essential hypertension physiologic and clinical correlation
Psychosom.Med 1 101 117 Jan 1939
An attempt to review the known physiological facts in the control of blood pressure and to describe the major aspects of a clinical picture of essential hypertension On the basis of physiological and clinical material discussed probable etiologic factors are outlined
The authors consider the psychosomatic study of man in relation to his environment both internal and external as an approach to the study of hypertension

KEAN B.H   Blood pressure of Cuna Indians
Am.J Trop Med 24 341 343 Nov 1944
It is the author s impression that the blood pressure of the Cuna Indians represents the normal arterial tension of a healthy people and may be construed as evidence that normal blood pressure does not rise with an increase in age This conclusion is based on the blood pressure readings of 408 Cuna Indians out of a population of 15 000
Tables

KEAN B.H & HAMMIL J F Anthropathology of arterial tension
Arch.Int.M 83 355 362 No 3 March 1949

A survey of the l terature concerning blood pressure studies among primitive peoples is presented in tabular form After brief comment the authors draw the following conclusions

1 In some races arterial tension does not rise with age

2 Among some peoples normal blood pressure is so low that it would be considered hypot nsive by most physicians

3 Economic status climate and superficial psychologic strain do not appear to be significant f ctors in the genesis of hypertension

4 Studies must be made of the disease diet and deeply-rooted psychologic problems of peoples to determine if any of these are important in producing hypertension

5 A re evaluation of the enormous body of statistics must be made in the U.S to determine whether the so-called normal increase of arterial tension is not due to the inclusion of cases of incipient and mild hypertension in t e middle age and older age groups

Tables

KEEVIL J.J Temperature and blood pressure in anxiety states
J.Roy.Nav.M.Serv 31 82 85 April 1945

The author presents cases of pyrexia due to anxiety and suggests that the etiology of the condition may lie in increased metabolism or increased muscle tone The author discusses blood pressure readings as an aid in d agnosing true anxiety states Case reports are cited by way of illustration

KEITH M.A., WOOLF B & GILCHRIST A.R The results of medical and surgical treatment of essential hypertension
Brit.Heart Jour XI 287 1949

A study based on 150 patients suffering from essential hypertension It has been possible retrospectively to match the surgical group in their pre operative state with the corresponding series of medical cases in whom for one reason or another surgery was not employed The statistical investigation indicates that in benign hyperte sion at the end of one year and also at the third anniversary of surgical treatment the sympathectomized patien s experience a greater relief of symptoms than corresponding medical groups The general con cl s on is that when the two groups are compared those patients who receive surgical treatment for their benign hypertension are subjectively considerably better than those treated medically

Tables

KEITH N.M RUCKER C W & PARKHILL E M Recession of retinal papilledema during terminal stage of malignant hypertension case
Arch Ophth 26 240 246 Aug 1941

A case report of a patient with malignant hypertension in which during the progressive terminal course 3 weeks before death a previously measurable papilledema disappeared and retinal hemor hages and exudat s became less numerous During the last 19 days of life the diffuse vascula prog ess was defin tely pro_ress ve ewhere than in the retina as was evident by increasing dysfunction of several v tal organs especially brain heart and kidneys

A poss ble explanation is that some compensating mechanism develope l at this parti ular time in the peripheral vascular blood supply to the retina The unequal histopathologic involvement of reti al arte ioles suggests there may have been a sufficient number of normal arterioles present n the ret n to give a blood su p y adequ te for the re absorption of papilledema

Tables and Illustrat ons

KEITH N.M & SMITH F.H Relation of diet to nephritis and hyperten on
J.Am.Dietet A 2 222 232 March 192

A discussion of the principles involved in the plann ng of d et fo patients with nephr t Pat nts w th hypertension even though they may not have nephritis are usually g ven food wh ch rel t ely low n pro tein salt condi ments extracts and all irritant Nephr t c p t ents are placed on d ts al ulated to me t the requ rem nts of the average ind vidual at rest in bed 40 grams of prote n 1 500 calorie b tween 1 200 nd 1 400 grams of water in the food and 7 to 8 gra ns of alt

The authors disc ss the importance and adv sability of us ng var o s foods nd c n ide the be t method for planning and calculating the diet Diet s l st tutions a e suggested

Photograph c illustrat on of menus

KEITH N.M WAGENER H P & BARKER N W D fferent type of e ent al hyp ert ns on
Am.J.M Sc 137 332 343 March 1939

A study of 200 cases of es en ial hypertens on re vealed con tart abn mal fo to nam ly ex es ve nar owing of the arterioles whether t e due to h tol gic han_e or ne ea d va oco t i t o The f nd ng of previous investig tors that there s a ma ked am t on the lin c l cours l ngth of l fe an l p tl ol c lesions have be n confirmed by th s tudy

A statist cal finding o a dist nct surv val curve f r var ou groups o h pe t n o lead the autho s to the conclu on that d st n t type of essent al hype t n on can b d ffe ent ated li c lly

Chart

KEITH N M WAGENER H P & KERNOHAN J W Syndrome of malignant hypertension
Arch Int Med 41 141 188 Feb 1928

A study of 81 patients 48 male and 33 female age range 9 to 64 years average age 42 years A full report of laboratory tests development and course of the syndrome with special reference to retinal data and pathological data is presented The authors summarize their findings as follows

In cases of sustained high blood pressure and diffuse change in the arterioles the course of the disease *is usually rapidly fatal The terminal clinical picture suggests simultaneous rapid functional failure of brain* heart and kidney The chief point of distinction of this hypertension syndrome from benign hypertension and chronic glomerulonephritis are the age incidence the characteristic retinal picture absence of anemia and frequent adequacy of adrenal excretion The characteristic histological observation is reduced general hypertrophy of the arterioles
Tables Charts Illustrations

KELLOGG F S Group incidence of hypertensive albuminuric pregnancy under a new classification
Am J Obst & Gynec 45 851 858 April 1943

The three fold purpose of this paper is to
(1) report the product of 7 years work for an acceptable tentative classification and to analyze future possibilities
(2) to report gross figures in the groups from the clinic of the Bodton Lying In Hospital in the year 1935 1939 *inclusive and*
(3) to consider practical limitations of these classifications as used especially as to subgroups

From an analysis of the data the ability to draw factual conclusions on matters pertaining to serious complications of pregnancy are too frequently impressionistically considered because of the individual limited experience with group classification Recommendations for classification are made by the author A discussion of this classification follows
Tables

KEMPNER W Treatment of heart and kidney disease and of hypertensive and arteriosclerotic vascular disease with the rice diet
Ann Int Med XXXI 821 1949

A description of the rice diet which deals in detail with the clinical changes produced by the rice diet The author quotes results of his nvestigations There follows a description of the clinical changes in which case histories are presented in order to demonstrate the main problems involved The case histories illustrate the effects of the rice diet on edema ascites heart enlargement and retinopathy in patients with primary kidney disease effect on cases of so-called benign essential hypertension without serious cardiac renal or retinal complications Typical electrocardiograms chest films and eyeground photographs are presented to illustrate that hypertensive vascular disease can be compensated to a great extent even when critical complications are already present Eyeground pictures are shown as examples of the disappearance of papilledema exudates and hemorrhages in spite of persistent hypertension and photographs are presented which demonstrate the effect of the r ce diet on patients with full blown malignant hypertension
Tables and photographic illustrations

KEMPNER W Treatment of hypertensive vascular disease with rice diet
Am J Med 4 545 577 No 4 April 1948

The author describes the diet in detail and considers the chemical changes produced by the rice diet Nitrogen metabolism cholesterol chloride sodium and potassium sulfate phosphate and ammonia excretion in the urin Discussion of the Active principle of the rice diet Indication and contraindication for use of the rice diet

There follows a discussion of the clinical changes produced by the rice diet which includes the report of the effect of the rice diet in 500 patients seriously ill and unresponsive to other therapeutic measures Detailed observations are recorded with respect to blood pressure heart size electrocardiograms and retinopathy In 322 of the 500 patients the diet proved beneficial in regard to one or more of the aforementioned factors
Tables and photographic illustrations

KEMPNER WALTER Treatment of cardiac failure with the rice diet
North Carol Med Jour 8 128 131 No 3 March 1947

Case history of patient with myocardial infarction followed by myocardial aneurysm is presented to demonstrate effect of rice diet in cardiac failure When the patient entered the hospital he showed advanced cardiac failure and marked sodium chloride retention After 5 weeks of treatment all medication was stopped and 9 weeks later all signs and symptoms of cardiac failure disappeared

KEMPNER W Effects of rice diet treatment of kidney disease and hypertension
Bull New York Acad Med 22 358 370 July 1946

The author deals briefly with the disturbances in renal metabolism attendant upon renal disease before discussing the compensation of renal metabolic disfunction with the rice diet

The following criticisms of the rice diet are discussed

1 *That the diet is nothing but starvation and that at least the* wear and tear quota of 45 grams of protein is needed to maintain protein equilibrium

2 That the restriction of fat in the rice diet is too rigid and that patients with hypertension should eat well balanced meals

3 That salt restriction has no effect on hypertensive vascular disease

The author reports the results of rice diet therapy in several studies he has made He presents photographic illustrations and tables and includes a summary of a typical case history of an individual who was treated with the rice diet

KEMPNER W Compensation of renal metabolic dysfunction treatment of kidney and hypertensive vascular d sease with rice diet
North Carol na M J 6 61 Feb 117 March 1945
213 patients with acute or chronic primary kid ey disease or with hypertensive vascular disease with or without card ac involvement retinopathy or uremia were treated with a diet limited to rice sugar fruit and fruit j ices supplemented by vitamins and iron Fluid intake was limit d to 700 to 1 000 cc s of fruit juic s daily The pa ients followed the diet strictly or with modification for periods varying from 4 days to 32 months.
Th author presents extensive and detailed results with regard to (1) protein equilibrium (2) plasma and urine chloride (3) blood pressure of 167 patients 36% showed no improvement in th ir hypertension (4) electrocardiographic changes (5) heart size (6) non protein nitrogen (7) urea nitrogen (8) cholesterol (9) ret nopa hy
Tables Charts photographic illustrations

KEMPNER W Rice diet in treatment of kidney disease and hypertensive vascular disease
North Carolina M J 5 273 274 July 1944
A short paper dealing with the rice diet and the results obtained by the author in its administration He reports the administration of the rice diet to 150 patients for periods from 4 days to 30 months In no nstance did the diet prove harmful and in 73% (109) of the patients it proved beneficial
The author describes the detailed changes he has observed among the patients he has treated

KEMPNER W Rice diet in treatment of hypertensive vascular disease
North Carolina M J 5 125 133 April 1944
A preliminary report in the form of 2 case histories and the study of 140 patients who followed the rice diet regimen fo periods of from 4 days to 30 months
One patient was suffering chronic glomerulonephritis and the other hypertensive cardiovascular d sease The report of these cases serves to illustrate the effects which a rice fruit sugar diet may have on hypertension heart enlargement electrocardiographic changes edema hypoproteinemia nonprotein nitrogen hypercholesterolemia albuminuria and retinopathy
Tables Charts Photographic Illustrations

KEMPNER W PESCHEL E & STARKE H Rice diet in malignant hypertension a case history
Am.Practitioner 3 556 563 No 9 May 1949
A case history of a patient with hypertensive vascular disease is presented The disease had reached the malignant ph ase and the patient was suffering from bronchial asthma and intestinal dist rbances at the same time Advised to have an immediate sympathectomy the patient decided to make a therapeutic trial of the rice diet first After a period of approximately 12 months on the rice diet the retinopathy disappeared and there was no longer any evidence of vascular disease
Tables Charts Photographic Illustration

KE NEDY R L J BARKER N W & WALTERS W Malignant hypertension cure following nephrectomy follow up report of case of child
Am J Dis Child 69 160 162 March 1945 abstr Proc Staff Meet Mayo Clin 13 69 570 Dec 13 1944
The follow up report of a case of a child who had malignant hypertension corr cted by nephrectomy Since blood pressure had remained normal for 5 years it is reasonable to conclude that the cure s permanent
Observations suggest prognosis for malignant hypertension in case of children who have un lateral atrophic pyelonephritis may be unusually good because the pathologic processes ha e not been of too long tand ng and are hence reversible

KERNODLE C E JR HILL H C & GRIMSON J M Experimental t chnic for measuring mean systolic pressures during a tivity rest a d natural sleep
Proc Soc Exper Biol & Med 5 64 66 Jan 1944
The authors report on a new technique for blood pressure determ nation that permits frequent re d ngs during varying phases of activity or rest A d agrammatic representat on of the appa atu is commented upon The technique was employed successfully with 4 dogs and permitted repeated blood pressure determinat ons over periods of time vary ng from 3 to 6 days Read ngs were taken at w ll w thout d sturb ng the an mal or induci g symptoms of discomfort The authors comment briefly on th advantages and di advant ge of the tech nique and conclude Blood pressure observations employing th t chn q e onf rm the mpression that there is a normal range rather than a normal bloo l pre sure level for the do varying w th the d gree and nature of activity

KERNOHAN J W ANDERSON E W & KEITH N M Art r ole n ca e f hypertension
Arch Int M ed 44 395 423 Sept 1929
A study of 53 case in wh ch complete vascular and renal tud es and biopsie of uperf c al m cle were performed 11 cases w re ben gn 18 severe b n gn or early malign nt and 23 mal gnant hyperten on The au hors discuss cl nical observations on ea h of the above groups and pr nt abstr ct of illust at ve cases The three groups a e compared with respect to 1 n l observat ons nd hi tologi stud e In 2 ca s of mal gnant hypertensio necropsies we e pe formed a d 4 months aft r t e bi p s A s mmary of the clinical data and of the gross and h tolog c changes i given
It wa fo nd that the arterioles in voluntary muscle of ambul to y pat nt with d ffu e hype t ns ve vascular d ease frequently show d st nctive hi t l gic change Th e change d ffer n degree and may aff rd a valuable index for pred ct ng the ultimate out ome in the ind vidual ase

KESILMAN M Incidence of essential hypertension in white and Negro males
M Rec 154 16 19 July 2 1941

The author concludes that the hypertension of Negroes and white people is a manifestation of the body's effort to accomodate itself to a more exacting mode of living and it is more marked in the Negroes because they have had relatively much less time to adapt themselves to it A comparable situation according to the author exists with tuberculosis which generally run a fulminating course in the Negro whereas the white man who has lived with it so to speak for centuries shows a much greater immunological response The tran plantation of the Negro from his native environment has served as a huge experiment to demonstrate the perniciou influence of civilized life on the cardiovascular and nervous system

KESSLER M M MOSCHCOWITZ & SAVITSKY N Hemato encephalic barrier clinical aspects and me han ism of development of hypertension of cerebrospinal fluid in hypertensive disease
J Nerv & Ment Dis 90 594 613 Nov 1939

Cerebrospinal hyperten on occurs frequently in the late stages of hypertensive disease whether of essential origin or that associated with glomeruolnephritis Unless a high cerebrospinal pressure can be demonstrated any headache in hypertensive disease must be viewed with suspicion as possibly the result of other causes
Tables

KESSON C M & McCUTCHEON A Hypertension and calcium intake
Lancet 2 793 Nov 30 1946

During an investigation of the etiology and treatment of senile o teoporosis observations were made which throw some light on the relationship between the intake of lime and hypertension The findings provide no evid ence that a high retention of lime prolonged over many month has any effect on the development of hyper tension or on the calcification of the vessel walls

KETY S S HAFKENSCHIEL J H (et al) The blood flow vascular resistance and oxygen consumption of the brain in essential hypertension
J Clin Invest 27 511 514 No 4 July 1948

Studies are reported of cerebral blood flow cerebral metabolism and cerebrovascular resistance in 13 patients with essential hypertension Despite a markedly elevated mean arterial blood pressure cerebral blood flow was within normal limits as was also cerebral oxygen consumption

There was a marked and consistent increase in cerebrovascular resistance averaging 68% which ap peared to be roughly correlated with the grade of retinopathy
Tables

KILBORN L G Blood pressure of primitive races with special reference to Miao of Kweichow
Chinese J Physiol 11 135 138 No 1 Jan 15 1937

A study of the blood pressure of 150 men of Hwa Miao group of Kweichow The average systolic pressure was found to be 104 mm the average diastolic pressure to be 70 mm

In the case of various primitive races that have been tudied it is noteworthy that the blood pressure of the older age groups not only does not rise above that of the younger men but is actually lower

KILMAN J R BRADFIELD E O & SIMPSON C M The atrophic kidney and hypertension
J Urol Balt 62 417 425 No 4 Oct 1949

Thirteen cases in which removal of an atrophic kidney for relief of hyerpetnsion has been performed are reported In one of the 13 cases the blood pressure returned to normal and has remained so from 2 to 9½ years In 5 cases the blood pressure remained the same the other patients dying in 6 months 9 months and 4 years respectively In one case the blood pressure remained the same after 18 months though the symptoms were definitely relieved

The authors conclude that certain criteria regarding nephrectomy for relieving hypertension have been established The kidney should show a definitely reduced function the normal kidney hould show some evidence of hypertrophy indicating that it is compensating for loss of function in the diseases kidney Best results can be expected in patients below 45 years of age and the younger the individual the better the results to be expected

KIMMEL G C Hypertension and pyelonephritis of children
Am J Dis Child 63 60 7 Jan 1942

The records of the cases of 510 infants and children all of whom has pyogenic renal disease and who varied in age from a few mon hs to 15 years were reviewed 91 cases which showed evidence of pathologic processes were selected for further study These cases were divided into the following groups

(1) Cases of unilateral renal lesion n which nephrectomy was performed
(2) Cases of unilateral renal lesions in which nephrectomy was not performed
(3) Cases in which renal l sions were bilateral

Conclusions

1 Hypertension associated with pyelonephritis in children is not rare present in 10% of 5 cases
2 Nephrectomy or the relief of obstruction to urinary flow in cases of unilateral pyelonephritis and hypertension frequently is followed by a fall in blood pressure to a normal level
3 No correlation was found between level of urea in the blood and the blood pressure
4 Many pyelonpehritic kidneys show slight to moderate degrees of arteriosclerosis in the presence of normal blood pressure

Tables

KIMMELSTIEL P & WILSON C Inflammatory lesions in glomeruli in pyelonephritis in relation to hypertension and renal insufficiency

Am J Path 12 99 106 Jan 1936

A study based on 56 cases of pyelonephritis from consecutive autopsies performed 1932 to 1934
Conclusions Two types of inflammatory lesions of focal distribution occur in glomeruli in pyelonephritis The first is peculiar to this condition and results from extension of the interstitial inflammation to the glomerulus The second occurs in pyelonephritic contraction of kidney as manifestation of generalized vascular disease Clinically associated with hypertension and renal insufficiency histologically distribution in kidney appears independent of interstitial inflammatory process Lesions indistinguishable from focal glomerulitis are found in essential hypertension of malignant types in which it is also closely associated with renal insufficiency
Tables

KIMMELSTIEL P & WILSON C Benign and malignant hypertension and nephrosclerosis clinical and pathological study

Am J Path 12 45 82 Jan 1936

Benign hypertension and benign nephrosclerosis may show a parallel development but in the early stages are not causally related In the later stages however there may be a reciprocal relationship i e
1 Hypertension acts as an accelerating factor on the development of arteriosclerosis
2 Arterial and arteriolar sclerosis of the kidney when severe enough to produced impaired renal function may give rise to renal fixation of the hypertension
Malignant hypertension and malignant nephrosclerosis on the other hand show a definite correl tion

KINARD F W & MARTIN F N JR Vasodepressor activity of blood of normal and burned dogs criticism of method

Am J M Sc 194 560 562 Oct 1937

Proof of the existence of appreciable quantities of blood histamine in normal animals has rested upon (1) a few chemical analyses (2) the production by blood extracts of characteristic effects on isolated tissues and of vasodepression in the cat
In view of the difficulty of extracting tissue histamine and because of the vasodepressor action of the various substances present in the extracts a critical examination of the extraction method most commonly used was carried out Observations and conclusions
1 The fall in blood pressure caused by assay solutions prepared from blood of normal and burned dogs by the Best and McHenry method is not due to histamine
2 The increased vasodepression produced by assay solutions of blood of dogs following burns is accounted for by the increased blood protein concentration due to fluid loss
3 The vasodepressor action of the solutions is possibly caused by a protein split product formed from blood prote n during the preparation of the assay solution
Tables

KING R L CARLILE T & BLACKFORD J M Hypertension follow up study of 481 patients

Northwest Med 41 298 305 Sept 1942

11% of the patients given general examination in the Mason Clinic had definite hypertens on From a study of 3 000 records the sex incidence was 53% male and 47% females Of the 04 patients with hypert nsion 41% were male 59% females The follow up study after 10 to 16 years showed 73% (353) of the pat ents were dead Of these 51% were male and 49% females The total mortality rate after 15 years was 70 9% 79 8% for males and 73 6% for females
Hypertension as reviewed in this study occurs more frequently among femal but s nore serious n males
Tables

KINNEY VIRGIL C Some orig nal blood pressure observations

J Am M Ass Chicago lxxxiii 1420 1423 1924

This is a very brief article on the subject of the mea urement of blood pressure The aut or m ntio ed (1) The height to which the blood pre sure goes ( ) Lowest blood press re advis bl (3) Inaccuracy of blood pressure readings because of an irregular heart act on (4) Blood pressure taken f t stand ng then ly ng sup e and again standing (5) Blood pressure rea tions runn ng errat c cour e (6) D latation at a end ng port on and arch of aorta (7) Influence of w ath r ch nges on blood pressur (8) Effect of cl mat and a titude on arterial tension

KINSEY D LEVENE C SMITHWICK R H & WHITE P D A to 10 year follo up st dy of card ova cula changes n 335 ut of 342 pat nt t t d by l mbodorsal splanchni tomy w th p c al r f ence to the heart

Abstract Program 22nd Scientific Se s on Am He rt A s p 33 1949

The d fficulties of evaluat ng u g cal treatment for hypert nsion are d scussed and seve al rea ons fo t e very few non surg cally tre ted er e for comp ri on nd tho ava l able are given The medical literature ha for the mo t part Pati nts in the n n surg cal group are not sub divided into comparable categ r e s below 50 ye rs of ge f int rm ttent hypertens on or cont nuous hyperte on older 90% of patients in this ser e d f n te relat on hip to urvival at
The importance of dist ngu shing whether a ph e f the pat nts having an abno mal electroc rd o gram before oper t n al pe rs to hav about 60% of the pat nts noted in the n n surg cal r es is present is noted The cardi c st tu before oper n d not d th t noted in the n n surg cat is present there is a strong ind cat on improv ment in electro ardiogram wa not d r bly great r than at present ther milar ion urg cally gram before operation Th s i consid from the ava lable d ta are po s bl any oth r treated group than in
Although no final conclu on that the survival rate s mu h high r n the rg cally comp r son treated series available f r comp r son

KIRK E.J Blood pressure in industry
J.Indust.Hyg 13 314 325 Nov 1931

A series of 527 cases were studied in relation to the incidence of hypertension and concomitant findings From this group 422 were selected and studied irrespective of findings 36% had hypertension Obesity occurred more frequently in the group with elevated blood pressure (28 4%) than in the whole group of cases (26 6%) The percentafe of foreign born was greater in the cases of elevated blood pressure than in the control group

KISCH F Klinische Beobachtungen uber Kreislaufreflexe welche von der Arteria brachialis auslosbar sind
Klin Wschr II 1299 1932

A temporary blood pressure decrease can be noted in persons with vascular disease under the influence of temporary pressure on the left arteria brachialis The pressure on the left arteria brachialis can especially in myocardiac disturbances as well as in hypertonics nomotopy heterotopy have some influences which however are all only short lived

KLEMOLA E Essential hypertension in uniovular twins 23 years old
Ztschr f menschl Vererb u Konstitutionslehre 22 69 76 1938

The author believes that a case of youthful essential hypertension in identical twins has never been reported before It is a unique case in which the hypertension was transmitted recessively

KLINEFELTER E W Influence of dietary factors on blood pressure
M Rec 144 446 448 Nov 18 1936

Factors relating to the influence of the diet on blood pressure are briefly considered

A report is made of a study of 600 patients aged 40 to 65 years special attention being directed to the meat fat salt water and fruit and vegetable consumption

Evidence is presented indicating a beneficial effect upon blood pressure from an anticonstipation low calory diet rich in fruits and vegetables and poor in meat fat salt and water

Tables

KLINK H Blood pressure reflex and hypertension study of vascular reflexes
Deutsches Arch f klin.Med 172 135 144 1931

The blood pressure increa e after a compression of the upper arm during blood pressure measuring is a reflex conditioned general blood pressure increase This so called blood pressure reflex can be found in the majority of cases in hypertonia In general reflex blood pressure increase was not found in youtful hypotonia

KNEER L ORTH O.S VERDA D.J & BURGE W.E Destruction of depressor action of adrenalin by ultraviolet radiation
Endocrinology 15 547 548 Nov Dec 1931

A 1 750 000 solution of adrenalin chloride was irradiated at a distance of 15 cm for 5 7 10 12 and 15 minutes respectively 2/10 of a cubic centimeter per kilo of body weight of these solutions and of the non irradiated solution was introduced into the external jugular of a dog and blood pressure records were made

The non irradiated adrenalin produced a marked depressor action the depressor effect was lessened with each increase of irradiation and had disappeared after 15 minutes

KOCH F L P Retina in systemic vascular hypertension clinical study of caliber of retinal arterioles (ophthalmodynamometry) and retinal arterial diastolic blood pressure
Arch Ophth 26 565 584 Oct 1941

An attempt was made to determine whether consistent variations from the normal in the retinal arteriolar diameters and the retinal diastolic blood pressure of patients with various hypertensive states could be established to determine whether values obtained could assist in classifying patients A total of 300 patients undifferentiated as to sex habitus and ethnologic derivation were studied Conclusions

1 Variations in ophthalmodynamometric readings are roughly proportional to levels of systemic blood pressure

2 Inconsistency of relation between caliber of retinal arterioles and retinal and brachial diastolic pressure prevents their use in clinical classification of hypertensive patients with diffuse arteriolar disease

3 Keith and Wagener classification of patients is confirmed as sound

4 Ophthalmoscopic examinations are of greater clinical value than determination of condition of retinal vessels or their blood pressure

The paper concludes with abstract of discussion on findings of the study

Tables and Charts

KODAMA T TANAKA B & SUZUKI S Biological studies of rays influence on blood pressure and their mechanical processes
J Orient Med 17 74 75 Dec 1932

Experiments were performed with the object of clarifying the influence of rays on blood pressure the relation between action and wave length and their mechanical processes The influence of artificial light sources such as the Vitalux lamp and mercury Quortz lamp were checked It was inferred from the experiment that the mechanical proces of ultra violet rays is that cholesterin cholin etc normal constituents in the animal bodies activated or molecularly rearranged by irradiation act upon the autonomic nervous center and enlarge the peripheral vessels such as the intestine causing a fall of blood pressure

KOHLSTAEDT K.G & PAGE I.H   Liberation of renin (kidney preparation) by perfusion of kidneys following reduction of pulse pressure

J.Exper.Med 72 201 216 Aug 1940

1 Isolated dog s kidneys have been perfused with defibrinated blood under hemodynamic conditions similar to those in the body Under these circumstances blood flow urine secretion and oxygen consumption are well maintained but urea clearan e is low Renal venous blood collected initially and at the end of 3 or more hours of perfusion exhibited no difference in vasoconstriction properties when perfused along with renin or renin activator through an isolated rabbit s ear

2 Reduction of pulse pressure by constricting the renal artery may be performed without reducing mean pressure significantly Impairment of urea clearance and rate of urine secretion follow and oxygen consumption is slightly reduced

3 After an hour or more of perfusion with reduced pulse pressure gradual rise in mean arterial pressure distal to the clamp and reduction of blood flow occur

4 Renal venous blood collected after about 1 hour of perfusion with reduced pulse pressure differs from that collected before reduction of pulse pressure in that it causes intense vasoconstriction when perfused with renin activator through an isolated rabbit s ear

5 Perfusion of a dog's hind leg under similar circumstances does not cause this change in the venous blood to occur

Conclusions are presented

Tables

KOPP I   Effect of fever on postural changes in pressure and pulse rate

Am.Heart J 18 46 56 July 1939

S udies were carried on to determine the effect of artificial fever upon the responses of the blood pressure and pulse rate to changes in body posture The application of artificial fever results in a greater frequency of inadequate responses to postural change more marked at the height of the fever than when body temperature has fallen Inability of the postural vasomotor reflex to respond in a normal manner under the conditions is revealed especially by the more frequent immediate and sustained drop in the systolic blood pressure and by rather marked reductions in pulse pressure Untoward reactions such as fainting unconsciousness and convulsions brought on by changes in body posture during or after the induction of artificial fever are due to cerebral anemia caused by diminished cardiac output and an impaired vasopressor mechanism

KOTTKE F.J   KUBICEK W G & LAKER D.J   Physical and nervous factors in experimental hypertension

Arch Phys Med 28 146 153 M arch 1947

I vestigation (a) into the possible role of renal nerves in producing a functional obstruction to renal circulation and (b) to study the effect of diathermy on the systemic blood pressure renal blood flow and glomerular filtration of patients with hypertension Results

1 Functional obstruction of the renal blood flow by stimulation of the renal nerves as well as organ c obstruction causes a sustained hypertension in dogs The hypertension lasts only durinp the period of renal nerve stimulation During the period of hypertension the renal blood flow may not be decreased

2 Conventional or short wave diathermy to the back or the head of patients with normal or high blood pressure causes a decrease of renal blood flow without a change in systemic blood pressure This decreased renal blood flow appears to be the result of circulatory reflexes to maintain the body temperature

Charts

KOUNTZ W.B & HEMPELMANN L H   Chromatrophic degeneration and rupture of aorta following thyro d ectomy in cases of hypertension

Am.Heart J 20 599 610 Nov 1940

Three cases are reported in which the ruptured aorta was the se t of d generation of the muscular coat typical of that described by Erbheim In each instance a thyroidectomy had been performed before the rupture occurred and all the patients were suffering from severe chron c hypertension The cl nical man fes ations in these three cases were strikingly similar

Although no notable change in blood pressure occurred after thyro de tomy the pati nt felt better as a result immediately following the operation

In each ca e varying degrees of chron c id opathic aort c and arterial degeneration were found It i suggested that this degeneration may result from a metabolic deficiency of ort c muscle under stra n It is f rther suggested that there should have been closer ob ervation n such ca es in order to a ce tain whether there was a relationship between dise se of the glands of int rn l secret on a id aort c a d arter al disease

It is of course recognized that the induced hypothyro dism and ortic cyst c degenerat on m ght hav been merely coincidental

KRAINES S.H   Correlation of oxygen depr vat on with intell gen e constitut on and blood pr ssure

Am.J Psychiat 93 1435 1446 May 1937

Report of a tudy of 30 subje ts male medical students ages 20 to 24 yea s The expe imental set up is explained d agrammatically with comments Result

1 There is a definite drop n nt ll gence (Army Alpha Test) wh le breath ng 10" oxygen (correspond ng to altitude of 20 000 feet) and subje ts w th h gh st test score showed g eat st drop in s o e under oxygen lack Cl nical impression was that asthen per ons howed g e test drop n intelligence and pyknic the least to th s stre s

3 A few prelimina y experiments suggest th t the drop in nt ll g nce var s with the instabil ty of blood pressure

Tables and Chart

KRAINES S.H & GELHORN E Effects of insulin hypoglycemia on blood pressure response to oxygen deficiency in man

Am.J Psychiat 95 1067 1075 March 1939

Experiments on scizophrenic patients were carried out on the influence of inhalation of 8 1 and 8 5% oxygen on the blood pressure at normal levels of blood sugar and during the hypoglycemic state induced by insulin The experiments confirmed the early work of Gelhorn Abraham and Moldavsky

It was found that the blood pressure rises only slightly on the inhalation of 8 5% oxygen for 5 minutes when the blood sugar is normal but that the rise increases with progressively falling blood sugar The critical blood sugar level below which the blood sugar response is markedly increased is at about 50 mg

The reaction is completely reversible upon administration of sucrose and is independent of the blood pressure level With excessive doses of insulin it is less pronounced than with moderate doses up to 200 to 300 units Excessive doses of insulin can decrease the latent period of insulin convulsions

Tables

KRAINES S.H & SHERMAN I C Neurotic symptoms and changes of pressure and pulse following injection of epinephrine

J.A.M A 114 843 845 March 9 1940

The purpose of this study was (1) to observe the effect of epinephrine on the blood pressure and pulse rate of psychoneurotic and normal persons and (2) to compare the sensations following the injection as given in subjective reports with the symptoms recorded in the patient s clinical studies

The study was carried out on 25 psychoneurotic patients 14 men and 11 women 19 nurses and students of whom 14 were men and 5 women

The most frequent reaction type encountered in this study is the paranoid followed in order by the hebephrenic catatonic and simple types The oldest group is the paranoid the youngest the hebephrenic type 44% of all admitted are paroled Of re admissions 37% are paroled Prognosis for second attacks is much poorer Prognosis in simple schizophrenic cases is best Best ultimate prognosis is held by the simple and catatonic types followed by the paranoid and lastly by the hebephrenic type Of all those paroled or discharged 72% had only one admission and 28% were paroled more than once

Tables

KRAKOWER A Blood pressure of Chinese living in Eastern Canada

Am.Heart J 9 396 404 Feb 1934

239 Chinese living in the city of Montreal whose ages ranged from 7 to 69 years form the basis of this report The conclusions are The average blood pressure of Chinese living in Canada for 10 years or more is consistently higher (10 mm) than that reported for Chinese natives Canadian Chinese have pressures the same as those of the white population In this series hypertension occurs with surprising frequency (11 2%) in contrast to the rarity in China

Tables

KREIENBERG W & WINTER A Altitude tolerance of hypertensive individuals

Luftfahrtmedizin 5 119 126 1941

An altitude tolerance test of hypertensive individuals showed the following results Hypertensive individuals should be divided into two groups those which have a high altitude tolerance and those with a low altitude tolerance The former usually have essential hypertension and the latter group suffers from malignant hypertension

Hypotensive individuals always show a high altitude tolerance

KREMER M WRIGHT S & SCARFF R W Experimental hypertension and arterial lesions in rabbit (following extirpation of aortic and sinus nerves)

Brit.J.Exper Path 14 281 290 Aug 1933

The aortic and sinus nerves (buffer nerves) have been extirpated in rabbits that were allowed to survive for long periods The blood pressure changes were recorded by means of the carotid loop method

Following unilateral denervation there is an elevation of the blood pressure from the normal level about 95 mm to about 115 mm Following bilateral denervation there is a persistent marked hypertension the average blood pressure being 160 mm

Degenerative changes in the aorta and fibrosis may take place in a high proportion of cases following the bilateral denervation These changes are not observed in control animals or after unilateral operation

The mode of production of the lesions is uncertain but they are not the invariable accompaniment of hypertension

KRIEGER V.J & WEIDEN S Value of cold pressor test in prediction of hypertension and toxemia in pregnancy

M.J Australia 1 417 423 April 5 1947 correction 1 544 April 26 1947

The authors come to the conclusion that the results of serial cold pressor tests during pregnancy are of value to the obstetrician since even if only one response in the series is of the hyper reactive type 50% of the patients giving such responses develop a hypertensive or pre eclamptic toxemia When two or more abnormal results are obtained the number of patients who develop such toxemia increases to nearly 70% On the other hand toxemia occurs later in the pregnancy in only a few cases in which the response to the test is always normal

The authors discuss in detail the reliability of the test Variation in the average systolic and diastolic blood pressure during normal and toxemic pregnancy are described

Tables

KURE K NAKAYA T MURAKAMI S & OKINAKA S Hyperadrenalinemia in essential hypertonia treatment with atropine

Jap.J.M.Sc Tr VIII Int,Med Pediat & Psychiat 3 51 83 Sept 1933

The authors show adrenaline can be found in the blood of man with normal blood pressure The blood of patients with essential hypertension and contracted kidney contains more adrenaline The adrenaline in venous blood cannot be measured Therefore the authors believe that the essential hypertension is caused by a hyperfunction of the suprarenal This hyper secretion of adrenaline is caused by the stimulation of the spinal parasympathicus

Charts

KURTZ C M SHAPIRO H.H & MILLS C.S Hypertension therapy with sulfocyanate (thiocyanate) results

Am.J.M Sc 202 378-392 Sept 1941

During the past 11 years 50 patients (20 males 29 females) age 16 to 76 years with essential hypertension have been treated by the authors with potassium sulphocyanate

Subjective improvement as estimated by the disappearance of headaches dizziness tinnitus etc was very definite in 63% fair in 20% and disappointing in 17%

Some degree of reduction of blood pressure was obtained in every case and objective results were consid red satisfactory in 78% fair in 16% and poor in 6% Average systolic pressure for the entire group dropped from 197 before treatment to 156 with treatment diastolic from 115 to 94 In four instances blood pressure remained normal for months or years after discontinuing thiocyanate

The op imum blood cyanate level ranged from 4 to 16 mg per 100 cc with an average of 8 3 mg The maintenance dose of potassium sulphocyanate varied from 3 to 71 5 grain doses per week average 9 doses per week

Incidence and causes of deaths of the 11 year period are cited Three illustrative cases are described briefly

Potassium su phocyanate is regarded by the authors as a valuable drug in the treatment of hypertension and properly employed capable of prolonging life and preventing disability in a substantial percentage of patients suffering from this condition It can be safely administered provided proper laboratory control is exercised at all times

Tabl s and Charts

KYSER F.A Thyroid arterioles in essential hypertension

Proc.Staff Meet Mayo Clin 16 330 336 May 21 1941

In this study the thyroid glands of 74 patients were studied 50 of these patients had essential hypertension the other 24 were considered controls

The author found that definite changes occur in the arterioles of the thyroid in essential hypertension These changes were measured by determination of the wall to lumen ratio

LAFFERTY C.R & PEARSON B Intraperitoneal hemorrhage in essential hypertension

Am.J.Surg 48 460 462 May 1940

A case of intra abdominal hemorrhage due to the rupture of a splanchnic artery The authors believe that hypertension severe gastrointestinal vascular sclerosis separately or in combination are dec ded factors in the precipitation of rupture of the vessels comparable to cerebral hemorrhage in hypertension The clinical symptoms are severe abdominal pain associated with varying degrees of shock

LAMBERT J P Venous pressure in children

Am.J.Dis Child 52 1088 1092 Nov 1936

This study was made to determine the normal range of venous pressure in children The observations were limited to 100 children between the ages of 4 and 13 years

The average venous pressure was 48 4 mm of water No relationsh p between venous pressure and age was found

Tables

LAMPORT H Effects on renal resistance to blood flow of renin (kidney extract) angiotonin pitressin (posterior pituitary prep ration) and atrop ne hypertension and toxem a of pregnancy

J Clin,Investigation 21 685 695 Nov 1942

Formulas for renal afferent and efferent arteriolar resistance have been appl ed to data in the literature Renal hemeostas s and the importance of the afferent arter ol s in protect ng the k dney from blood pressure changes are discussed The implication of the low filtration fraction obs rved in late tox m a of pr gnancy are weighed

P tressin caused no cons stent change in glomerular intra capillary pre sure total effective renal a ter iolar resistance or in the afferent to efferent arter olar resistan e rat o in unanesthetized dog

Renin infused into unane thetiz d dogs ncreas d glomerular ntra capillary pressure and total arteriol r resistance with either afferent nor effer nt con tr ction predominating cons stently It is l k ly that the re sistance of the afferent arterioles varie w th blood pre sure hang s so as to p serve renal function

A specif c renal effect is the probable ca se of the low filt ation fract on seen in late severe tox mia of pregnancy There s nad quate evidence to decide how much of th s effect primar ly constr ction of the efferent arterioles and how much if any is change in the permeab lity of the glomerular m mbrane to water and/or insulin and other sugar

Tables

LANDIS E M BROWN E FAUTEUX M & WISE C Central pressure in relation to cardiac competence blood volume and exercise

J Clin Investigation 25 237 255 March 1946

To compare the effect of reduced cardiac competence and increased blood volume on venous pressure the relation of central venous pressure to exercise cardiac damage and increased blood volume was determined in dogs anesthetized with a mixture of morphine chloralose and urethane Extensive observations are reported with regard to

(1) Effects of graded exercise induced in anesthetized dogs

(2) Ligation of coronary arteries effect on venous pressure during rest and exercise

(3) Auricular fibrillation artificially induced effects on central venous pressure alone and combined with exercise

(4) Graded cardiac tamponade effect on central venous pressure with and without exercise

(5) Acute increase of blood volume effects on venous pressure during rest and exercise

(6) The change in vascular volume which corresponds to the asphyxial (or maximal) rise of venous pressure

Tables Photographic Charts

LANDIS E M & GIBBON J H JR Effects of temperature and of tissue pressure on movements of fluid through human capillary wall

J Clin Investigation 12 105 138 Jan 1933

A pressure plethysmograph was arranged so that each determination of reduced arm volume required only two minutes stoppage of blood flow The movement of fluid through the human capillary wall was studied in relation to venous pressure temperature and duration of venous congestion It was found that above an average venous pressure of 12 cm water the rate of filtration was directly proportional to the increase in venous pressure

LANDIS E M THOMAS E D & WOOD J E Comparative pressor activity of blood plasma removed during slow infusions of epinephrine and renin

Federation Proc 4 43 1945

Using the rabbit s ear perfused with pre heparinized blood it has been shown that vasoconstrictor artefacts in normal plasma are due to platelet disruption and can be avoided by repeated centrifugation or Seitz filtration With these precautions epinephrine and renin solutions were infused into unanesthetized rabbits at rates sufficient to elevate systolic blood pressure by 45 to 50 mm At the height of this pressor response blood was removed from the heart and the prepared plasma injected into the perfused rabbit s ear Repeated control plasmas were inert

The results suggest that in the course of producing vasoconstriction in the intact rabbit hypertension is withdrawn rapidly from the general circulating blood probably by combination with the vascular smooth muscle and that any hypertension not so combined seems to disappear too rapidly to permit assay by the rabbit s ear method

These findings help to explain the negative results usually obtained in assays of systemic blood from hypertensive animals or patients and also the negative results obtained in indirect transfusion experiments

LANDOWNE M Low sodium diet in high blood pressure

J Am Dietet A 24 187-193 March 1948

A brief account of therole of sodium in physiology and disease is presented as background information in a discussion of the evolution of the therapeutic low sodium diet

The principles underlying the restriction of sodium in treatment of edema is discussed together with conflicting contemporary theories concerning the therapeutic value in essential hypertension of various low sodium diets

The paper concludes with a consideration of the practical limitations and difficulties of administering a low sodium diet

LANGLEY C J & PLATT R Hypertension and unilateral kidney disease (indications for nephrectomy)

Quart Med J 16 143 155 July 1947

A review of recorded cases to attempt to discover a guiding principle to help in the selection of cases for nephrectomy 93 cases in which data are sufficient for study and 10 hitherto unpublished cases This is believed to summarize the great majority of cases in American and British literature

Classification of results of nephrectomy

47 successes blood pressure was restored to normal and remained normal for follow up period

37 failures blood pressure was not significantly reduced and in some cases higher after operation

6 partial successes significant fall in blood pressure occurred though not to normal

13 doubtful - on account of inadequate data or short follow up period

Tables with breakdowns on age duration of hypertension significance of retinal changes effect of heredity and analysis of pathological conditions found are given

Conclusions Urological investigations should be carried out as routine in hypertensive cases

(a) Intravenous pyelogram in all patients with hypertension (under age of 45 years) and in all cases of bladder trouble cystitis dysuria heamaturia or renal pain This should be followed by retrograde pyelography

(b) If there is evidence of unilateral renal disease then in nearly one third of the cases there will be surgical indications for nephrectomy In the remainder a non functioning kidney on one side with good function on the other is the most promising indication for success In all cases total renal function should be within normal limits

(c) If other indications are clear age by itself is no contra indication to operation neither is knowledge that hypertension has already existed for a number of years Decision in favor of operation can more confidently be made for younger persons

Operation of thoraco lumbar sympathectomy affords an opportunity of inspecting the kidneys Where a possibility of unilateral renal disease exists the suspected kidney shbuld be operated on first

Nephrectomy can be carried out if the indications appear to be favorable Papilledema is no contra indication to nephrectomy In most of the failures the evidence that the renal disease was unilateral has been unconvincing

LANSING A.L Treatment of aeroembolism by pressure application to arteries
Air Surgeon s Bull 1 5 No 5 May 1944

An experimental study to test the efficacy of application of sphygmomanometer in the relief of bends located in the forearms and wrists legs and ankles

Of 27 subjects studied 23 reported complete relief after application of pressure while 4 reported partial relief Duration of relief was recorded in 20 of the subjects Amount of pressure required to give relief was variable

From this study it seems that the reduction of arterial pressure locally is a key factor in relieving the pain of bends

It is possible that nitrogen bubbles form in the smaller arteries and induce stoppage of the arterial bed thus pain could result from stretching of the smaller arteries By decreasing arterial pressure the stimulation of arterial nerve endings would be diminished

LARIMORE J W A study of blood pressure in relation to types of bodily habitus
Arch.Int.M 31 567 572 1923

In a group of 417 factory workers (238 female 179 male) blood pressure is analyzed for its relation to bodily habitus

1. Results show that hyperasthenic habitus is accompanied by a higher blood pressure than the asthenic habitus Pressure accompanying the hyposthenic habitus is intermediate

2 Average blood pressures are approximately the same for male and female asthenic and hyposthenic the blood pressure of male asthenic being higher than that of female asthenic The relation holds true for all age groups

3 There is a very small direct correspondence between the types for body surface and the decreasing blood pressure

Tables and Illustrations

LARSON E Depressor substances in posterior lobe of pituitary
J.Pharmacol & Exper Therap 56 396 416 April 1936

Ephedrine produced a similar increase in a number of erythrocytes leucocytes and platelet in both normal and splenectomized guinea pigs The spleen is therefore not essential for these change in the animals

In addition to other evidence the disproportionate increase in the different cell elements nd cated that 'blood concentration is not an adequate explanation of the changes Ephedrine probably causes extrusion into the circulation of erythrocytes leucocytes and platelets from storage and haemopoietic centers including the bone marrow

Fresh posterior pituitary lobes of cattle were extracted with acetone the acetone evaporated to form ex tract X and the residual lobes dried to form powder A Solution of A and X injected into cats tolerant to the pressor principle of pituitary extract produced a fall in blood pressure and changes in organ volume Assays as well as chemical and physiological characteristics indicate that the major portion of the activity is due to histamine

Tables Charts Graphs

LARSON P.S & GREWER G Relation of potassium to blood pressure response to epinephrine
J Pharmacol & Exper Therap 61 213 217 Nov 1937

In an effort to clarify the alleged position of potassium as an int rmed ary in the phys ological action of epinephrine the authors have sought to determine the possibility of creating a syst m when epin phrine might secure its usual circulatory effect without effecting a notable increase in serum potassium For that re son hepatectomies were performed on animals The a thors found

1 Epinephrine may effect the release of small amo nts of potassium from structures other th n the liver

2 There is no causal relationship between the rise n serum potassium and the r se in blood pressure resulting from the injection of epinephrine

3 Th sympathetic like action of epinephrine is not dependent upon the creat on of any constant erum potassium threshold

LATTES R Vascular proliferations with fe tures of arteriovenous anastomoses i sympathet c ch in of hypertensive pat ents
Am.J Path 24 177 193 Jan 1948

Peculiar vascular prol ferations w th features of arterioveno ana tomoses have been ob erved in the thoracolumbar sympathetic ganglia of pat ents with severe essent al hype tension Th r occu ren e n sympathetic ganglia and not in other organs or tissues of the hypertensive pat ent s poss bly related to some as yet unknown structural pec li ation of the blood vessels of that region

Illustrations

LAURENS H Effect of carbon arc rad tion on blood p essure and card ac output
Arch Phys Therapy 17 199 205 April 1936

The changes in cardiac output blood pre sure oxygen consumpt on pulse rate and hemoglob n content have be n studied n a group of normal and hypertensive men aft r singl erythema produ ing dose of carbon arc radiation

In normal m n the blood pressure showed a slight lowering 6 mm systolic 8 mm diastol c lasting 1 to 2 days accompan d by an increase in cardiac output averaging 21%

In hypertension the average drop in systolic pressure was 17 mm in diastolic pressure 7 mm The cardiac output increased in 21 instances by an average of 39% decreased in 6 by an average of 23% and showed no significant change in 5
Graphs

LAURENS H Effects of carbon arc radiation on blood pressure
Radiology 10 492 495 June 1928
The common belief that the radiation of artificial sources is solely or mainly active because of the ultra violet fraction has been demonstrated in but few instances Comparison between artificial and natural sources shows the importance of specifying the percentage distribution of the energy emitted The author outlines some of the reasons for preferring the carbon arc to the Hg lamp
There is a more or less *general view that irradiation produces a greater or less drop in blood pressure* The author reports the results of studying the blood pressure pulse rate and body temperature of normal dogs following irradiation of varying intensity and duration
During deprivation of light it is not the hemoglobin content or the absolute number of red cells which is decreased by lack of light but the volume of blood foing to the skin Various investigations on the effects of light deprivation are cited and the author reports preliminary results of a current study on the influence of carbon arc radiation on the blood of anemic and normal dogs and of experiments on the effect of carbon arc radiation in anemia produced by hemorrhage
Discussion

LAURENS H & Von KOLNITZ H Effects of carbon arc radiation on pressure and blood histamine
M Rec 152 209 212 Sept 18 1940
After reviewing in some detail previous findings on the effects of carbon arc radiation on blood pressure and blood histamine the authors report the results of the present investigation An attempt was made to de monstrate a correlation between increase in blood histamine in the vessels and lowered arterial pressure (subsequent to carbon arc irradiation) Experiments were carried out on dogs
Individual irradiations lowered arterial pressure with a corresponding increase in blood histamine like activity Unfortunately a continued correlation between lowered blood pressure and increased histamine like activity of the blood was not apparent *except in a very few instances*
The authors have no satisfactory explanation for either the lack of continued correlation between lowered blood pressure and increased blood histamine like activity or for the progressive fall in blood histamine like activity during a period of several successive irradiations
A possible explanation for the decline in the blood histamine like level is that the store of the preformed histamine like substance or its precursor is depleted although a heavy dose will in most instances *result* in an increase of histamine like activity together with the lowered pressure The sustained fall in pressure may be due to damage to the minute vessels in the skin so that they remain dilated perhaps with somewhat in creased permeability long after the histamine like substance has been destroyed or removed from the circula tion

LAUSON H.D BLOOMFIELD R A & COURNAND A Influence of respiration on circulation in man with special reference to pressures in right auricle right ventricle femoral artery and peripheral veins
Am.J.Med 1 315 336 Oct 1946
A study has been made of the influence of various forms of respiration on the pressures in the right auricle right ventricle central veins antecubital vein and femoral artery in normal subjects and in patients with chronic pulmonary or cardiac disease Intrapleural pressure in addition was recorded in 4 cases of pulomonary tu berculosis with recently induced therapeutic pneumothorax and normal circulation
Representative records and data from 18 cases are described and interpreted *under the following headings*
A Influence of rhythmic respiration on the pressures in the intrathoracic and peripheral veins the right auricle and ventricle and femoral artery
B Sustained inspiration and expiration
C Exaggerated forms of respiration
D Influence of deep respiration on the form of the right auricular pressure pulse in various clinical conditions
E Detailed analysis of simultaneous pressures in the pleural space right heart and femoral artery
Charts

LAWRENCE H.E Blood pressure of adolescents observations in 220 students
New England Med.J 228 381 384 March 25 1943
The author observes
1 Blood pressure determination should be part of the examination of students but only if the readings can be checked at one or more later dates for the pressure *of adolescents is labile*
2 9 5% in this group show abnormally high pressures Most of these persons come from hypertensive families
Tables

LEADBETTER W F & BURKLAND C.E Hypertension in unilateral renal disease
J Urol 39 611 626 May 1938
A resume of the experimental work on the production of hypertension by constriction of the renal arteries in animals has been given paying particular attention to the fact that partial constriction of only one renal ar tery results in marked *sustained hypertension*
A case showing clinical application of the experimental work in a Negro boy 5½ years old with marked hypertension present for 3 years is cited An apparent cure was effected by removal of an ectoptic kidney the main artery of which was partially occluded
The etiological agent was found to be intra arterial mass of smooth muscle thought to be congenital
Tables Plates

LEGIARDI LAURA C & BRIN C J Control of blood pressure by antipituitary serum
I ernat Clin 3 28 33 Sept 1930

The authors established the following working hypothesis Repeated injections of extract of posterior pituitary shows the development of tolerance The tolerance might be due to some kind of defensive reaction If this hypothesis be true then the serum of horses treated with repeated injections of pituitrin or its active pressor principle should show a direct or indirect depressor action

The authors then report the results of their studies on 100 cases of myovascular insufficiency with hypertension under constant observation and treatment with antipituitary serum The results were

1. General improvement following intensive treatment
2. No ill effects on other organs were noted after the treatment ceased.
3. The serum is not a cardiac depressant
4. The therapeutic action of antipituitary serum lasts for a period of several weeks after discontinuance of treatment

LEITER L Unusual hypertensive renal disease occlusion of renal arteries (Goldblatt hypertension) anomalies of urinary tract
J.A.M.A 111 507 510 Aug 6 1938

Purpose to report unique clinical analogies to experimental renal hypertension and to illustrate other types of unusual organic kidney disease associated with hypertension

1 A clinical counterpart of the acute Goldblatt experimental hypertension is illustrated by a case of thrombo arteritis obliterans of small renal arteries in tabetic patient

2 Chronic arteriosclerotic occlusion of main renal arteries was associated with hypertension renal insufficiency retinal arteriosclerosis and contracted kidneys Another close analogy to Goldblatt experimental hypertension

3 Certain congenital anomalies of the urinary tract are apparently regularly associated with hypertension while other types show a much lower incidence

4 Chronic pyelonephritis is commonly productive of hypertension

LEMANN I I Effect of long continued subtropical summer on blood pressure
Am J Trop Med 12 331 347 Sept 1932

Previous studies suggested that Chinese have lower blood pressure than the occidental and that foreigners living in China have a lowering of blood pressure It does not follow that this is to be attributed to the effect of climate Variables such as race custom habit diet and disease have not been eliminated in these studies

Similarly the suggestion that hypertension is more common in the south than in the north does not necessarily imply that this is due to the effect of climate
Tables

LEVINE S A & ERNSTENE A C Arterial pressure during attacks of angina pectoris
Am Heart J 8 323 328 Feb 1933

Blood pressure readings were obtained during spontaneous attacks of angina pectoris in 23 patients In 3 the attacks were allowed to end spontaneously and in 20 relief was obtained by administering nitroglycerin

In every instance the level of the systolic pressure was distinctly higher during pain than when the patient was free from pain

Evidence is presented to show that in patients with angina pectoris pain alone e g that of renal colic neither produces an elevation in blood pressure nor brings on an attack of angina
Tables

LEVINE V Myocardial changes in hypertension
Arch Path 18 331 346 Sept 1934

27 hypertensive hearts were examined grossly and microscopically In all the hearts minute myocardial scars were observed in many areas No correlation could be found between age sex race weight of the heart blood pressure the cause of death or the presence of syphilis and the amount of myocardial fibrosis Endocardial sclerosis was present in all the hearts being as a rule most marked in the left auricle It was usually due to an increase in smooth muscle cells and elastic fibers

LEVY R C & BRAMS W A Effect of arm compression on local pressure in patients with normal and abnormal hearts
Proc Soc Exper Biol & Med 31 100 102 Oct 1933

The effect of experimental compression was studied in man to determine (a) whether or not the results are the same in persons with normal and failing hearts (b) what relation the maximum rise in venous pressure bore to the systolic and diastolic arterial blood pressures to study the effect of gradually increased compression on the venous pressure below the point of compression The group consisted of 6 normal control individuals and abnormal groups of 9 with mediastinal tumor and 18 with cardiac failure

1 A series of 26 observations were made in man the venous pressure was increased until the latter reached the level of the venous pressure fell from

2 Venous pressure gradually rose as compression was slightly further compressed of the degree of further compression the systolic arterial pressure At that point on slightly and remained unchanged at the lower level found in all the groups of 2 to 80 mm of mercury regardless of the condition of the heart No change

3 The progressive rise and the drop at the systolic blood pressure compression force approximated the diastolic patients regardless of the actual level of the systolic blood pressure was seen when the compression in the slope of the venous pressure rise was seen blood pressure

LEVY R L HILLMAN C C STROUD W.D & WHITE P.D   Transient hypertension significance in terms of later development of sustained hypertension and cardiovascular renal diseases (study of Army officers)

J.A.M A 126 829 833 Nov 25 1944

Analysis of medical record of 22 741 officers in the U.S.Army in order to appraise the significance of transient hypertension Length of observation period was from 1 year to more than 25 years

1 The frequency with which transient hypertension was first noted increased with age

2 At all ages sustained hypertension developed more frequently in those with previous transient hyper tension than in those who never showed an elevation in blood pressure In both groups the rate increased with advancing years

3 The rate for disability retirement and death rate from cardiovascular-renal diseases was higher in those with transient hypertension

4 The rate for disability retirement and death rate from disease other than those of cardiovascular renal origin also was slightly higher in the group with transient hypertension

5 The decision as to usefulness to the Army of a man with transient hypertension will depend on the need for manpower

The authors point out the probable applicability of these findings to the general male population if of com parable physical fitness and similar age group

Tables

LEVY T   Hypertension of renal origin with report of three cases

Am Practitioner 3 604 608 No 10 June 1949

✓ A presentation of 3 case histories of individuals with hypertension and demonstrable kidney disease The paper concludes with a discussion of the participation of the kidney in the production and maintenance of hyper tension

Although relation of the kidney to the causative mechanism of hypertension is a highly debatable point recent work seems to indicate renal vascular disease as a cause of hypertension

Illustrations

LEWIS D L & PALSER E G.M   Changes in blood pressure and respiratory volume following spinal anesthetic (procaine hydrochloride)

Brit.M J I 1202 1204 June 4 1938

Observations on changes in systolic and diastolic blood pressure and in respiratory volume after the ad ministration of a spinal anesthetic were carried out in 23 cases The authors reach the following conclusions

1 The greater part of the fall in blood pressure is due to vasomotor paralysis

2 A minor cause is the diminished respiratory excursion which is due to abdominal and intercostal paralysis rather than medullary ischaemia

3 The Trendelenburg position has an immediate definite effect in increasing the blood pressure but not the respiratory volume

4 The induction of hyperpnoea has a small delayed effect in increasing the blood pressure

Charts

LEWIS H.A & GOLDBLATT H   Experimental observations on humoral mechanism

Bull.New York Acad.Med 18 459 487 July 1942

It has been demonstrated that after constriction of the main renal arteries to a significant degree to produce experimental renal hypertension renin an enzyme is liberated into renal vein blood Renin interacts with preangiotonin a pseudoglobulin substrate in systemic blood probably produced by the liver in the presence of an adequate amount of functioning adrenal cortical tissue to form the final effector vasoconstrictor and pressor substance angiotonin It has also been demonstrated that the physiological effects of the intravenous injection of renin are identical to the hemodynamic alterations found in experimental renal hypertension and in human essential hypertension It follows therefore that the humoral mechanism noted above may also be re sponsible for the elevation of blood pressure in human essential hypertension The proof that angiotonin is the responsible agent awaits its isolation from the systemic blood of human beings with hypertension

A fourth factor involved in the humoral mechanism of experimental renal hypertension hypertensinase has been discovered Although this substance an enzyme destroys angiotonin in vitro there is no proof yet available that it is effective in lowering blood pressure in man or animals with hypertension It has not yet been shown that the anti pressor renal extracts with which hypertension is said to have been lowered in man and animals are rich in hypertensinase and inactive when this enzyme is destroyed The exact nature of the effective substance in anti pressor renal extracts which have been used in the treatment of hypertension re mains to be elucidated

Tables

LEWIS R.N & NICKERSON N.B   Prolonged adrenalin hypertension and subsequent circulatory failure

Proc.Soc.Exper.Biol & Med 51 389 391 Dec 1942

Dogs were anesthetized with morphine followed by just adequate doses of sodium barbital Respiration mean femoral right atrial and intrathoric pressures were recorded Adrenalin chloride was slowly and con tinuously infused

In about 50% of the experiments prolonged administration of adrenalin caused 2 to 7 hours after cessation of infusion either dynamic evidence of irreversibility or postmortem changes in the upper intestine which re sembled those of hemorrhagic hypotension

Adrenalin constriction can lead to shock but does not unfailingly do so The experiments have no bearing on the problems whether equally intensive generalized constriction occurs in other types of clinical or exper imental shock or whether lesser degrees of vasoconstriction can cause similar circumstances

Tables

LEWIS T Hypertension associated with angina pectoris relief by amyl nitrite with note on Nothnagel s syndrome
Heart 15.305 327 July 1931
Among the various forms of angina there is one type in which the attacks of pain are associated with high pulse rate and blood pressure The syndrome is ordinarily found in males suffering from free aortic regurgitation The attacks are frequent and often nocturnal and the pain is accompanied by severe palpitation respiratory disturbance is the rule
The signs in the attack indicate vasoconstriction This vasoconstriction does not result from pain since it precedes the pain The pain is shown not to be the simple consequence of raised blood pressure There is no constancy between the occurrence of given pressures and pulse rates and the appearance of pain It is suggested that the coronary vessels are involved in the general vasomotor storm and that this factor is one that interferes with what would otherwise be a critical relation between work done by the heart and pain
This form of angina is particularly susceptible to the action of amyl nitrite the effects of the drug are not to be ascribed to simple lowering of blood pressure but in part if not in chief part to dilatation of the coronary vessels
Tables

LEWIS W.H.JR Blood pressure changes with age in adult men
Am.J Physiol 122 491 505 May 1938
The blood pressure has been measured under basal conditions in 100 men 20 in each decade from 40 to 89 years of age in 2 men of 91 plus and 1 man of 101 years. The data have been statistically analyzed and the various measures and graphs of correlation and variations presented The systolic mean and pulse pressures showed a highly significant positive relationship to age but not the diastolic pressure The systolic mean and pulse pressures increased gradually from 40 to 62 years and rapidly from 62 to 85 years After 90 years the pressures seem to decline
Tables Graphs

LIAN C Mean arterial pressure during effort and emotion
Compt.rend.Soc de biol 107 1113 1115 July 16 1931
A study of the effect of simple gymnastic effort on three individuals with no cardiovascular irregularity In all three cases the blood pressure rose with effort Further in two healthy subjects and in a third with permanent hypotension (without functional effect) mean pressure again showed a rise as a result of effort
Finally readings were taken in the case of a young girl firstly when she was emotionally excited and secondly after a brief period of rest and relaxation In the second instance the readings were lower
The author concludes consequently mean arterial tension is not a physiological constant

LIEB C C MULINOS M G & TAYLOR H L Studies on vasomotor reflexes vaso constriction from a deep inspiration of air
Proc.Soc.Exp.Biol N Y 34 89 1936
The superficial and total blood flow of the forearm and hand were studied by the use of four different methods Over 100 experiments were performed on 15 healthy adults including 2 women
The experiments suggest that the vasoconstriction from a deep breath occurred on the art rial side of the capillary tuft a fact borne out also by the marked changes in temperature of the skin They suggest also that the phenomenon is of neural or reflex origin and is not due to the mechanical shifts of blood nto the pulmonary circulation for such shifts are presented by the circulatory occlusion induced
The reflex mechanism has not been analyzed further but may be due to one or more of such factors as alveolar stretching to vascular reflex from pulmonary blood pressure changes or to the cooling effect of the inspired air

LIM R K & HSU F Y The depressor or vasostatic reflexes
Clin.J Physiol 5 29 2 1931
If a single carotid sinus is excited with a series of stimuli increas ng in int nsity from 0 to maximum the response is always depression and under the best conditions a maximal d pression of blood pressure may be produced
With maximum depression the blood pressure falls to about 60 mm which is approximately the sinus threshold In effect maximum sinus stimulation brings down the blood pressure to a level wh ch will not excite the sinus
When all the depre sor fibres are severed the blood pressure ris s permanently to between 180 200 mm this pressure is also the maximum for s nus stimulation
If this pressure is the full expression of the tonus of the vasomotor centre it is evid nt that in the normal intact animal the vasomotor ton s is antagon zed chiefly by the sino aort c reflexes and since the antagonists are about equally matched equilibrium w ll be e tablished approximat ly m dway betw en maximal tonus level and maximum sino aortic depression At the equilibrium point there w ll be the l ast tendency on the part of each antagonist to bring about cond tion fa orable for the other Th s equilibrium will tend to be constant in the resting animal and probably det rmines the normal blood pressure level

LIM R K.S & LU Y.M Question of myel ncephalic sympathet center comparat ve study of location of myel n phalic pressor (sympatheti ?) cent r in vert brat s
Chinese J Physiol 12 197 220 Sept.15 1937
The pressor center ha been locali ed in the medulla of various members of the vertebrate phylum In every animal the pressor c nter is found in close relat on with the vest bular area although the area is situated in the caudal part of the 4th ventric e in the mammal and in the cephalic end of the v ntricle in other vertebrates
The assoc at on of the pressor c nter with the ve tibular area suggests that the myelencephalic sympathetic center of wh ch the pre sor center is presumed to be a component part may function as the regulator of visceral posture

LING W K   Blood pressure of Chinese statistical study of 20 948 life insurance applicants
Chinese M J 50 1773-1798 Dec 1936

The blood pressure of 20 948 Chinese Life insurance applicants both healthy and impaired is studied

1 The average normal blood pressure of healthy Chinese males of all ages is systolic 115 8 mm and diastolic 75 7 mm In females it is about 5 mm systolic and 4 mm diastolic lower

2 Blood pressure of northern Chinese is much higher than that of people of other regions lowest in southerners

3 The cause of relative hypotension in Chinese is attributed to the effect of relative underweight

4 The incidence of hypertension in Chinese is 2 657 which is higher than that observed for Caucasians of similar insurance population in America

5 Essential hypertension is not rare among Chinese insurance applicants

Tables

LINTON R R HARDY I B JR & VOLWILER W   Portacaval shunts in the treatment of portal hypertension an analysis of 15 cases with special reference to the suture type of end to side splenoral anastomosis with splenectomy and preservation of the kidney
Surg Gyn Obst 87 129 144 No 2 Aug 1924

The purpose of the paper is to discuss various types of portal bed block and to report a group of 15 cases in which patients have been treated by various types of shunt operations with particular reference to the suture type of end to-side splenorenal anastomosis with splenectomy and preservation of the left kidney

1 The portacaval type of shunt operation apparently prevents serious hemorrhage from esophageal varices although they may still persist by roentgenographic examination and in addition may improve the liver function

2 Splenectomy and the suture type of end to side splenorenal anastomosis with preservation of the kidney are recommended as most satisfactory operative procedure in cases especially for extra hepatic portal bed block in which the spleen has not been previously removed

3 Anastomosis of the superior mesenteric vein to the inferior vena cava and of inferior mesenteric vein to left ovarian vein has been utilized with apparent success in 2 patients who had spleen previously removed

4 Direct ana tomosis of portal vein to inferior vena cava may frequently be impossible due to extreme degree of vascularity of the region of the gastro hepatic ligament

5 Results in 15 patients treated by various types of portacaval shunts have been more satisfactory in extrahepatic portal bed block than in intrahepatic type

Case Histories Plates Tables

LISA J R   Decompensated hypertensive heart
J Lab & Clin Med 17 211-215 Dec 1931

This report is based on 10 cases having one feature in common - congestive type of cardiac failure with dyspnea on exertion cyanosis and edema The blood pressure ranged from 160 to 255 Hypertrophy was marked in all weights ranging from 450 gm to 1 110 gm They consisted of miliary necroses with cellular reaction Histogenesis is traced They apparently have a close relationship to the clinical syndrome and offer a pathologic basis for it

Plates

LISA J R ECKSTEIN D & SOLOMON C   Relationship between arteriosclerosis of renal artery and hypertension analysis of 100 necropsies
Am J M Sc 205 701 703 May 1943

The caliber of the renal arteries was studied in 100 consecutive cases in which blood pressure readings were obtained Hypertension was present in 56 normal pressures were found in 44

The autopsies performed demonstrated no consistence between the condition or caliber of the main renal artery and the presence or absence of hypertension

Goldblatt believed from his experimental work that renal ischemia from obstruction of the renal artery and its associated hemodynamic relationship produced hypertension On the other hand Page suggested that the lowering of pulse pressure within the kidney itself was of more importance than a gross reduction of blood flow The data obtained from the present study would tend to support the latter theory

LISTON O   High blood pressure caused by food allergy
J Missouri M A 34 199 201 June 1937

The author is convinced that certain foods when ingested by individuals sensitive to that food will cause continuous over stimulation of the vaso constrictor nerves of the arterioles thus raising the blood pressure as long as any of the food remains in the system

Four case histories are presented of individuals who proved allergic to certain types of food and whose blood pressures fell considerably upon removal of the offending food from their diet

The author presents a crude method of testing for allergy that can be used when a well equipped allergy laboratory is not easily accessible

The author recognizes the methodological limitations of so small a number of cases

LOGAN R E   Blood pressure in hyperthyroidism
Grace Hosp Bull 14 16 21 Jan 1930

A study of a selected group of cases in an effort to show the possible influence if any of hyperthyroidism upon arterial sclerosis and hypertension The data are divided into the following groups

1 42 cases average age 50 years systolic pressure 150 or more evidence of enlarged thyroid Average systolic and diastolic pressures 170/96 Average pulse pressure 76

2 78 cases average age 48 years Average systolic and diastolic pressures 158/90 Average pulse pressure 68 In spite of thyroid conditions severe enough to demand operation average systolic pressure was not much above usual physiological pressure noted of this age under such conditions Several operative cases moreover promptly developed arterial hypertension after complete thyroidectomy

3 23 cases age average 30 to 74 years None were thyroid cases all cardiovasculars Average systol c and d astolic pressures 170/104

The findings refute the theory that hyperthyroidism particularly that associated with adenomatous changes causes a slow step likewise in systolic pressure with a later gradual diastolic rise until permanent ar er al changes were demonstrable

LOMAN J (et al) Effect of alterations in posture on the intra arterial blood pressure in man pressue in the carotid brachial and femoral arteries in normal subjects
Arch.Neur Psychiat Chic 35 1216 1224 No 6, 1936

The effect of al erations in posture on the arterial blood pressure within the carotid femoral and bronch ia arteries was stud ed in a group of human subjects with apparently normal vascular systems The intra carotid artery pressure dropped from 22 to 60 mm of mercury when the patient was shifted to the vertical head down position while simultaneously the pressure in the brachial artery rose from 4 to 22 mm of mercury and the pressu e in the femoral artery rose from 22 to 40 mm of mercury

The pressure in the carotid artery rose from 18 to 36 mm of mercury when the patient was shifted to the ve-tl al head-down position while simultaneously the pressure in the brachial artery fell from 4 to 22 mm of mercury ar the pressure of the femoral artery fell from 22 to 40 mm of mercury
Tables Charts

LOMAN J LESSES M F & MYERSON A Human autonomic pharmacology effect of acetyl beta methyl choline (mecholyl) by iontophoresis on arterial hypertension
Ann.Int M ed 12 1213 1222 Feb.1939

In 10 young dementia praecox subjects the hypertension produced by benzedrine sulfate was markedly reduced to normal or close to normal levels for periods varying from 30 to 90 minutes that is as long as the drug was allowed to be absorbed In 3 of 8 senile hypertensives the blood pressure was markedly reduced to normal or close to normal levels for varying periods of time In all of 7 senile hypertensives the administra tion of prostigmin prior to the mecholyl iontophoresis produced a reduction in blood pressure to normal levels
Tables

LONGCOPE W T Chronic bilateral pyelonephritis origin and association with hypertension
Ann.Int.Med 11 149 163 July 1937

Continuous study of 22 cases of chronic bilateral pyelonephritis Conclusions

1 A contracted kidney of chronic pyelonephritis may arise in adults from hematogenous infection of the kidneys (infectious bacterium is bacillus coli)

2 The onset of the disease may assume a form of acute pyelonephritis

3 Progressing insidiously for many years during later phases chronic renal insufficiency is often com bined with hypertension Hemorrhagic retinitis may also occur

4 Hypertension was not associated with arteriosclerosis in 9 fatal cases in 3 fatal cases chronic pyelo nephritis combined with chronic diffuse glomerular nephritis
Illustrations Tables and Charts

LOOFBOUROW D & PALMER R.S Management of essential hypertens on
M ed Clin.N.America 33 1269 1282 Sept 1949

A classification of the grades of hypertensio based on recognizable organic change The main types of treatment are discussed Conventional medical treatment includes sedation rest di t and psychotherapy Bar biturates are important in treating hypertension for they promote rest Also useful are n trates wh ch act as n trites causing peripheral vaso dilation Coexistence of obes ty and e sential hypert nsion imply necessity of reducing d et two such diets are Kempner s rice diet and the low sod um diet

Surg cal treatment is discu sed briefly as is psychotherapy

Four case histories are cited as illustrat ons of the various kind of treatment
Charts

LORD J W.JR Use of portacaval sunts in the management of portal hyperten on
J.In ernat Coll.Surgeons 11 297 302 No 3 May-June 1948

Portal hypertension may be due to intra hepatic block of the portal vein or its rad cles as exemplified by a cirrhosis of the liver or extra hepatic block a in Bauti s syndrome

The two ch ef clinical man festat ons of portal hyp rtens on are gastro ntest nal h morrhage from eso phageal varices and intractable a cites

The two basic operative te hniqu s for the relief of portal hypertens on are d scu sed Th se are de ana tomosis of the end to side anastom sis of the portal ve n to the nfer o vena cava or an end to splenic vein to the left renal vein after splenectomy The latter procedur was h ghly f vored at present

A number of the p tients having desper t ly grave outlook d scu ed n this p per were helped by surg cal intervention although accomp nied by a sign f c nt mortal ty
Plates

LORD J W JR Arterial and venous hypertensive states benefited by surgical intervention
Surgery 23 550 560 March 1948

Three types of arterial and venous hypertensive states are now benefited to some degree by surgical intervention

1 Coarctation of the aorta may be completely relieved by resection of the stenotic area and end to-end anastomosis of the aorta

2 Essential and malignant arterial hypertensive cases will to a significant degree be favorably altered by thoracolumbar sympathectomy

3 Portal hypertension may be partially relieved with improvement in a fair percentage of cases by an anastomosis between the portal system and caval system of veins
Illustrations

LORD J W JR & HINTON J W Effect of exercise on pressure of patients with advanced hypertension before and after thoracolumbar sympathectomy
J A M A 129 1156 1158 Dec 22 1945

A study of the effect of moderate exercise on the blood pressure of a group of 30 consecutive ambulatory patients suffering from advanced hypertension before and after thoracolumbar sympathectomy

The results are summarized as follows To our knowledge the favorable influence of exercise on the blood pressure of patients with advanced hypertension following thoracolumbar sympathectomy has not hitherto been mentioned In the series of 30 patients discussed in this paper the average post operative fall in the resting diastolic blood pressure was 15 mm However when the pre operative and post-operative diastolic levels following exercise were compared an average fall of 32 mm was observed

The evidence further emphasizes the value of thoracolumbar sympathectomy as a therapeutic measure in the management of patients suffering from advanced hypertension
Charts Tables

LORD J W JR & HINTON J W Operative and post operative management of patients undergoing thoraco lumbar sympathectomy
New England J Med 237 840 843 Dec 4 1947

In the operative and postoperative management of hypertensive patients undergoing extensive thoracolum bar sympathectomy including the 3rd or 4th thoracic through the 2nd or 3rd lumbar ganglions certain factors are of value the use of 2 cc of 1% solution of neo synephrine in the intravenous fluid given during and after each operative stage and closure of the chest incision without drainage followed by careful postoperative check up by physical examination and x ray films

Furthermore the authors discuss the types of anesthetic agent the use of oxygen digitalis penicillin studies of the blood chemistry and red cell count early ambulation and heparinization
Illustrations

LOWE T E Blood pressure changes following localized myocardial death
M J Australia 2 447 451 Oct 18 1941

A new method of producing localized myocardial death in dogs is described A series of observations on the immediate effect of localized myocardial death on the general systemic circulation is presented The effects on the myocardium of falling blood pressure after myocardial infarction are discussed and the conclusions are applied in the treatment of human myocardial infarction
Tables and Plates

LUKIN N Unusual management of essential hypertension case
Ann Int Med 1 161 168 Sept 1927

A definite regimen for the management of essential hypertension is described based mainly on a high in take of animal protein and fruits ingestion of considerable amounts of coffee avoidance of minor decompensa tions by the elimination of hot baths with sweating and the substitution of showers Personal experience with this method is related by a physician who is himself a victim of hypertension

Laboratory and empirical observations are discussed in support of this method

LUPS S & FRANCKE C Blood pressure during period of starvation (September 1944 to May 1945) and after liberation (May 1945 to September 1945) in Utrecht Holland
Acta med Scandinav 126 449 458 1947

In comparing the readings of blood pressures in 520 persons taken in April 1945 with those taken before September 1944 it was evident that during the severest hunger period the average systolic as well as the aver age diastolic blood pressures were definitely lowered In case of considerable loss of weight a decrease of the systolic pressure was found to be most frequent in hypertensive subjects and least in hypotensive subjects The diastolic pressure showed corresponding changes In comparing the readings of blood pressure in 340 persons taken in September 1945 with those taken in April 1945 an increase in systolic pressure was found in 77% of the hypotensive 47% of the normotensive and 25% of the hypertensive subjects 80% of the persons examined had increased in weight considerably

LUTTERLOH C H Clinical significance of effects of posture on pressure postural test as means of classi fying hypotension
Am J M Soc 193 87 96 Jan 1937

A study is presented of the effects of posture on the blood pressure and pulse rate in normal adults nor mal children and a group of hypotensive individuals classified as secondary essential and primary hypotension

The response in the normal group to postural change from the horizontal to the upright position was a slight fall in the systolic blood pressure a definite rise in the diastolic blood pressure and a rise in the pulse rate In the secondary and essential hypotension groups a similar response was noted The primary hypo tension group however responded abnormally by manifesting a decided fall in both the systolic and diastolic

blood pressure with only a slight increase in the pulse rate

The similarity between the primary hypotension and postural hypotension is suggested

A test for circulatory efficiency and vasomotor stability is outlined and a resulting classification of hypotension is presented

Tables and Charts

LUTZ B.R & WYMAN L C   Reflex cardiac inhibition of branchio vascular origin in the elasmobranch *Squalus acanthias*

BiolBull 62 10 16 1932

The paper attempts to ascertain whether similar alterations of pressure within the gill vessels of elasmo branchs are effective cardio inhibitory stimuli The author summarizes the results as follows

1 Cardiac inhibitions follow sudden increase of pressure within the gill blood vessels of Squalus acan thias An average increase of 10 7 mm Hg above the average systolic pressure existing in the dorsal aorta constitutes an adequate stimulus for the inhibitory response

2 The cardio inhibitory response is a reflex with afferent pathways located in the branchial nerves and efferent pathways in the vagus supply to the heart The reflex is both unilateral and crossed

3 The average ventral aortic systolic blood pressure in Squalus acanthias is found to be 28 2 mm Hg the average dorsal aortic systolic pressure 15 4 mm Hg and the average ventral aortic pulse pressure 13.3 mm Hg The inhibitory reflex to increased ventral aortic pressure modifies the diastolic blood press ure to a significant degree

4 The adaptive nature of the reflex is pointed out and its phylogenetic significance is discussed

Charts

MacCRAKEN F L   Incidence of idiopathic hypertension in the voung

J.Michigan M.Soc 38 668 669 Aug 1939

The report of examinations of over 10 000 women ages 20 to 30 years over a period of 10 years This examination revealed wide variation in blood pressure persistent over a series of tests

Available follow up studies were very limited but the author presents in detail one case history she was able to follow

MACGREGOR R G.S & LOH G L   Influence of tropical environment upon basal metabolism pulse rate and blood pressure in Europeans

J Physiol 99 496 509 June 30 1941

The subjects were European soldiers living in barracks in Singapore and were divisible into two groups (1) 35 s bjects whose residence in the Tropics did not exceed 6 months (2) 35 subjects at the end of 2½ years residence Summary of results

1 The basal metabolism shows a definite reaction to tropical environment in certain normal individuals and is absent in others

2 The reaction consists of a gradual fall in the basal metabolic rate and a corresponding variation in pulse rate systolic and diastolic blood pressures has also been shown in cert in cases

3 Depression in metabolism in those subjects affected in this way appe rs to reach a max mum before the end of the first year in the Tropics This lower value is shown to be mainta ned after 2 years in the Tro pics and is not affected by a period of military training in the subjects exam ned

4 The environmental factors which may influence these values are d scussed

Table

MAC KENZIE D W & SENG M.I   Urologic aspects of hypertension

Surg Gynec & Obst 70 578 583 Feb 1940

A general article dealing with the urologists views on hypertension The causes of hypertension may be put into 3 main categories

1 Intrinsic disease of kidney
2 Obstructive disease or cond tions involving the upper or lower ur nary tract
3 Adrenal glands

The authors also consider diagnosis renal physiology and treatment and arr ve at certain clinl [illegible]

MACKINLAY W W   Psychology and blood pressure in cert n fly ng personnel

M Press 218 148 1 2 Aug 13 1947

A report of blood prssure readings by age groups of personnel of the A r Tran port Auxiliary [illegible] individuals with stable circulation As a result of the i ve t gat on th author concludes that [illegible] readings in the healthy adult i low r than that generally s ppo ed Tobacco and moderate [illegible] to have no augment tive effect on blood pressure

MACLEAN A R ALLEN E V & MACGATH T.B   O thosta c tachycard nd orthostatic hyp[illegible] defe ts of enous blood to h art

Am.Heart J 27 145 163 F b 1944

During a period of 2 years nor nal subj cts and l rge g oup of pat ents who were suffering [illegible] ety of disorders ha e been exam n d n a on istent detail d manne with respect to [illegible] blood pressu e heart rates and Flack tests M ltipl stud e were done o each patient [illegible] eral days nd at va ying tim s Orthostat c def cts of veno s tu n h ve been divid [illegible] (1) Tho e in wh ch o thostat c ch nge are n on i tent and are no assoc ated in a primary [illegible] disease

(2) Tho e n wh ch o th stat c ch ges re consi tent and are a o ated with organic [illegible]

(2) Tho e n wh ch o th stat c ch ges re consi tent and are a o ated with organic [illegible]

Two ca es of org n ortho t t c defect of ven us return have be n studie [illegible] amounts of sodium [illegible] and the nt ke of e c effect of preced ng postur l stat to result i def te sympt mati and objective chang [illegible] p bed and extr s lt appc

The studies suggest that the improvement resulting from the head up bed and increased intake of salt corresponds to an increased volume of circulating blood and an increase of the extra cellular fluid of the lower extremeties

MacMAHON H E Renal changes in hypertension
Yale J Bil Med 8 23-30 Oct 1935
The gross and microscopic changes in the kidney in varieties of primary or essential hypertension are described Four groups are considered
1 Temporary hypertension of young and middle aged individuals experienced during certain of the toxemias of pregnancy
2 Permanent hypertension uncomplicated by clinical signs and symptoms as seen in young individuals
3 Permanent hypertension of middle aged and elderly person associated with a variable degree of generalized arteriosclerosis
4 Permanent though variable hypertension in young and middle aged individuals associated with destructive and inflammatory lesions throughout the body known as malignant nephrosclerosis
Illustrations

MacWILLIAM J A Postural effects on heart rate and blood pressure
Quart J Exper Physiol 23 1 33 Aug 1933
The author discusses the following
1 The rate-controlling mechanism
2 The carotic sinus reflex and certain postural effects
3 Variation in efficiency of carotid sinus reflex
4 The sitting lying difference
5 Occurrence of giddiness or lying down
6 The squatting posture
7 Some relation of the horizontal posture
8 The sitting standing difference
9 The kneeling posture
10 Slowing effect of slight movements in standing
11 The foot up position in standing
12 The foot up position in sitting
13 Causation of the quicker pulse rate in standing
14 Some effects of bending the trunk
15 Influence of vascular conditions in the lower limbs
16 Mechanism of effects on pulse rate
17 Variation in postural effects
18 Static muscular contraction

MAJOR R H The possible relationship between guanidin and high blood pressure
Am J M Sc Phila clxx 228 232 1925
The author studied the pressor effects of various substances present in the normal urine The observations suggest there may be a relationship between guanidin and arterial hypertension The question is left unanswered as to whether high blood pressure is caused by an increased production of guanidine due to an error of metabolism or due to a faulty excretion of guanidines by a damaged kidney This study indicates that any great excess of guanidin is destroyed although a part of this excess may be retained probably fixed by the neuromuscular apparatus of the smaller blood vessels with the production of an arterial hypertension

MAJOR R H Observations on the cause and treatment of arterial hypertension
J Kansas M Soc Topeka xxv 177 179 1925
Over the past 50 years many theories to explain the causation of arterial hypertension and many therapeutic measures have been advanced The author mentiones briefly a number of the etiological theories
A report is made of a series of experiments which showed that creatine and creatinine had no effect on the blood pressure but that methyl guanidine a product of protein metabolism found in urine had a strong pressor effect Numerous experiments led the author to the view that the pressor effect of the guanidine compounds is apparently exerted almost immediately on the neuromuscular apparatus of the smaller blood vessels
A study was then made of the effect of certain substances on the hypertension produced by guanidine Some had a definite lowering effect on the blood pressure

MAJOR R H The excretion of guanidine bases in two cases of arterial hypertension with reduction in blood pressure
Johns Hopkins Hosp Bull Balt xxxvi 357 360 1925
Report of a marked fall in blood pressure accompanied by a gradual rise in the output of dimethyl guanidine The output for several days after the fall of blood pressure was quite high and increase in urinary output by both patients was noted
This suggests a relationship between the guanidine bases and hypertension since the marked increase in excretion of these bases was followed by a fall in blood pressure
Table

MAJOR R.H & WEBER C.J Possible increase of guanidine in blood of certain persons with hypertension
Arch Int Med 40 891 899 Dec 1927

A method for the determination of guanidine bases in the blood is summarized Using this method the authors found that although some of the patients with essential hypertension show normal values the majority of the patients with essential hypertension show some increase over the normal guanidine values while the patients with nephritis and nitrogen retention show marked increases in blood guanidine The authors comment upon the following two questions which are suggested by this finding

1 Are the slight increases in the group of essential hypertension of any significance ?

2 Can the increase in blood guanidine in chronic nephritis be due to an error of the method in oxidizing the increased amounts of creatinine present in the blood of these nephritic patients into methyl guanidine

Tables and Charts

MAJOR R.H WEBER C.J & NANNINGS J.B Effect of sodium isoamylethyl barbiturate (sodium amytal) upon depressor action of brain extract
J Pharmacol & Exper Therap 47 107 109 Jan 1933

A study of the effect of brain extracts upon blood pressure of unanesthetized dogs The results obtained show differences from those obtained in dogs under other anesthesia

The experiments show that a preliminary injection of sodium amytal very greatly increases the depressor effect of brain extract although there are marked variations in individual susceptibility

Charts

MANLOVE F R Retinal and choroidal arterioles in malignant hypertension clinical and pathologic study of 15 cases
Arch Int Med 78 419 440 Oct 1946

From this study it is evident that in the eyes as in most other organs malignant hypertension is accompanied by pronounced alteration of the structure of the arterioles The author was unable to demonstrate any relationship between the arterioles and other retinal lesions

It has been found with a few exceptions that although the wall lumen ratio varies radically in different organs hypertension is uniformly accompanied by a definite reduction of the ratio of the diameter of the lumen to the thickness of the wall The degree to which it is reduced increases as the severity of the hypertension increases This reduction has appeared in many instances to be of sufficient degree to present a definite impediment to the flow of blood

Tables Illustrations

MARCOU I The interaction between pressor vaso motor reflexes
Q J Exp Physiol Lond 19 387 395 1928 1929

Sherrington working on the inter action of allied spinal muscular reflexes described the phenomenon of occlusion occurring when two excitatory afferent nerves are stimulated The experiments described in this article were started with the object of finding whether a similar phenomenon of occlusion plays a part in vaso motor reflexes Experiments were performed on decerebrated cats

1 The interaction of vaso motor responses taking place during stimulation of various afferent nerves has been studied and compared with similar interpretations taking place in reflex contractions of skeletal muscles

2 The phenomenon of effacement taking place during intercurrent stimulation of two afferent nerves is described

3 Effacement is also observed during the interaction of a sensory and an efferent vaso motor nerve

4 The phenomenon of augmentation in vaso motor reflexes is described and critically examined

5 The mechanism of effacement is a peripheral one In this respect the phenomenon of vaso motor effacement differs from that of occlusion observed in muscular spinal reflexes The peripheral overlap of vascular areas involved is so great that it is impossibl to determine whether a central overlap also exists

Charts

MARTIN F.N JR Chronologic relationship of blood pressure and serum potassium effects of epinephrine
J Pharmacol & Exper Therap 76 270 274 Nov 1942

Though the K (potassium) theory of epinephrine action has been disproved the time relations between these two actions of epinephrine has not been studied The object of this paper is to demonstrate the relation ... and more prolonged th n the ...

The serum potassium increase caused by injection of epinephrine is slower and more prolonged than the blood pressure increase The serum potassium increase caused by 0 1 mgm per Kgm of epinephrine in the cat is relatively greater than the blood pressure effect That caused by 0 05 mgm per Kgm is relatively less than the blood pressure effect

The serum potassium increase after the injection of epinephrine cannot be the cause of the blood pressure increase

Tables

MARTIN G.J ICHNIOWSKI C T WISANSKY W A & ANSBACHER S Oxidases (tyrosinase) pressor amine and hypertension
Am J Physiol 136 66 69 March 1942

The oxidative destruction of adrenaline is promoted in a tyrosinase adrenaline system by ortho substituted phenols and inhibited by aromatic amines and amnoben ... acid ... kidney tissue system is altered by the ... of dopa ...

The destruction of pressor bodies formed during incubation ... tyrosinase adrenaline system ... nephritic hypertensive dog ... test compounded in the same manner as ... in reducing blood pressure of the pe...

The effectiveness of tyrosinase in reduction of catechol ... enhanced by the simultaneous administration ...

Table

MARTIN K A & WHITE H L Blood pressure responses to suprasystolic compression of tis ues
J Missouri M Ass St Louis xix 196 1922

Compression of the forearm great enough to produce a local ischemia produces a rise in systolic and diastolic arterial pressure the systolic pressure tending to rise above the compressing pressure

The rise in pressure does not manifest itself until the compression has lasted 15 to 45 minutes and then is usually maintained as long as the compression is maintained at least up to 60 minutes It appears earlier with smoking than without Headache sweating and a sensation of heat usually accompany the rise in pressure in smoking nausea also is usually present even in the case of habitual smokers

Marked waves of blood pressure have been observed to initiate the rise Whether or not this is a constant phenomenon is not certain

The arterial pressure rapidly returns to its initial level on release of compression In two cases the blood pressure fell to or below its initial level before decompression This was presumably due to vasomotor fatigue and was accompanied by symptoms of collapse

The rise in pressure is probably due to splanchnic vasoconstriction It is accompanied by an increase in volume of the opposite arm which is probably passive

No significant change in blood pressure resulted on brief compression of the kidney in the anesthetized rabbit and dog nor in the decerebrate cat

The suggestion is made that these findings may have some bearing on the etiology of clinical hypertension Discussion concludes article

MARTINEZ ALVAREZ A Relationship between atmospheric phenomena and human physiology
Puerto Rico Health & Trop Med 9 210 216 Dec 1933

A study of the influence of meteorological phenomena on the physiology of humanity as evidenced by blood pressure readings and the total and differential counts of leucocytes

From the experiments it would seem that blood pressure falls when high atmospheric pressure occurs blood pressure increases with the advent of a barometric low and returns to its initial point with the establishment of normal conditions

MARTLAND H S Essential hypertension clinical and pathologic characteristics
Postgrad M 6 48 No 1 July 1949

Primary or essential hypertension comprises some 88% of all cases of persistent arterial hypertension and in spite of all various theories and concepts as to its etiology its real cause is not at present known Symptoms of the following classification of hypertension are described very briefly by the author

1 Essential hypertension of the benign type (a) Very mild cases (b) More severe cases
2 Cause of death in benign form
3 Essential hypertension in the malignant type
4 Cause of death in malignant form

MARVIN H P & SMITH E R Hypertensive cardiovascular disease in Panamanians and West Indians residing in Panama and Canal Zone
Mil Surgeon 91 529 535 Nov 1942

There were 2 656 admissions to the colored male medical service of Gorgas Hospital within one year The distribution of patients was 1 440 West Indians and 1 216 Panamanians (45 8% and 54 2%) Hypertensive cardiovascular cases numbered 173 or 6 5% of the total admissions These were divided into 156 (90%) West Indians and 10% Panamanians The author s conclusions are Most Panamanians have some Indian blood possibly of significance from the standpoint of the relatively low incidence of hypertensive disease in these people

MASON E D Effect of change of residence from temperate to tropical climate on basal metabolism weight pulse rate blood pressure and mouth temperature of 21 English and American women
Am J Trop Med 20 669 686 Sept 1940

Measurements have been made under basal conditions of weight pulse blood pressure mouth temperature and metabolism of 12 English and American women changing their residence from temperate to tropical climates (Sante India) The following conclusions were drawn

1 Weight tends to decrease in the tropics
2 The pulse rate falls in the tropics in almost all cases
3 There is a trend toward slightly lowered systolic and diastolic pressures but much individual variation

MASSIE E Clinical correlations between renal diseases and hypertension
J Missouri M A 43 680 682 Oct 1946

The author discusses the relationship between hypertension and renal disease and concludes Hypertension and renal disease have a most important and often reciprocal relationship to each other A renal lesion may be the cause of or a result of arterial hypertension or may even occur simultaneously with it as a consequence of a third abnormal process

The differential diagnosis of hypertension and renal disease is considered with reference to family history personal history physical findings and laboratory findings

MASSIE E Recent advances in management of hypertension

J.Missouri M A 42 18 24 Jan 1945

Treatment of essential hypertension remains unsatisfactory Fundamental causes of essential hypertension are still mostly obscure so that treatment is still symptomatic rather than ideally etiologic

1 Thyocyanate therapy continues to be favored despite certain untoward effects The details of its administration together with suggestions as to the advisability of its use and as to the conditions likely to arise during therapy are considered

2 Extracts of kidney tissue fish oils and tyrosinase are discussed

3 Finally surgical procedures are reviewed Unilateral nephrectomy is sometimes highly successful and most consistently good results have been obtained through splanchnicectomy and sympathectomy

MASSIE E ETHERIDGE C.B & O'HARE J P Thiocyanate therapy of hypertension

New Eng.M.J 219 736 740 Nov 10 1938

Sodium thiocyanate was administered to 14 patients suffering from uncomplicated vascular hypertension The dosage was controlled by the blood cyanate concentration the optimum level of which was found to range between 5 and 7 mg % The daily amount of sodium thiocyanate which produced and maintained this level varied for different patients A lowering of blood pressure was obtained in every case The average fall ranged from 66 to 21 mm systolic and from 33 to 8 mm diastolic Marked symptomatic relief especially of headache nervousness and vertigo was obtained in 12 patients

Toxic symptoms observed were occasional episodes of transient weakness and infrequent attacks of milk epigastric distress In addition nausea vomiting and marked weakness occurred in patients and three attacks of angina pectoris in another

MASTER A.M Cardiovascular problems in war hypertension and the Navy

Bull.New York Acad Med 19 704 712 Oct 1943

Naval candidates presenting themselves for physical examination are usually under great strain and exhibit higher than normal blood pressures On the other hand it must be remembered that transient hyper - tensives tend to become permanent hypertensives in later years

There are many arguments for an against accepting men in the Navy who possess borderline blood pressure readings The suggestion is made that present standards are too high and that with slight or moderate hypertension an individual is often of excellent physique and of use to the Navy Acceptance of pre hypertensives however may mean added burden for the government

In conclusion the author presents the following three statements

1 Anyone with definite high blood pressure has no place in the Navy for general service and even a single diastolic reading beyond 100 or 110 mm no matter what the subsequent readings should disqualify the individual

2 In every doubtful or borderline case a complete physical examination should be performed attention being paid to organic heart disease disease of the blood vessels and kidneys

3 Candidates whose blood pressure are borderline should be accepted n regular Navy and Reserve under waiver in time of emergency provided a law is enacted by Congress that no compensation or pension be paid to such a person because of appearance of definite hypertension or increased blood pressure dur ng such service Tables

MASTER A.M Borderline hypertension and the Navy during the emergency incidence of hypertension among general population

U.S.Nav.M.Bull 41 52 56 Jan 1943

Hypertension is so common that it is probable that blood pressure l mits of 140 plus over 90 150/90 150/95 150/100 cannot be considered abnormal after the age of 40 Under the age of 40 borderline blood pre s ure levels or actual hypertension levels of slight or even moderate degree for the age wheth r obtained und r tress or not probably indicate a subsequent hypertension

MASTER A.M Characteristic electrocardiograms and roentgenograms in arter al hypertension prognostic significance

Am.Heart J 5 291 299 Feb 1930

The electrocardiographic and teleroentgenograph c records of 152 patient with hyperten on have been stud ed

The possible clinical significance of the high voltage re ord as well as the hyp rt nsive roentgenogram seem to indicate a long stan i ng hypertension even when there is no h story or current cl nical evidence of it Such an electrocardiogram has been seen in patient with coronary artery d sease who have lost th r hyper tension

MASTER A.M & DACK S Blood pressure n workers over 40 years of age prel minary study

Indust Med 11 145 147 April 1942

An analys s of the blood pres ure of nearly 5 500 workers over 40 yea s of age is r ported In the 3 665 males the ncidence of hypertension (150 yst l c over 90 d astol c or mor) was 25 7% between 40 to 49 years 35 7% between 50 to 59 years and 52 8% between 69 to 90 years The espective incidences n the 1 788 femal s were 40 2% 51 3% and 71 4%

Tables

MASTER A.M DACK, S & JAFFE H L Age sex and hypertension in myocardial infarction due to coronary occlusion
Arch.Int Med 64 767-786 Oct 1939
The influence of age sex and hypertension on the incidence clinical course and prognosis of coronary occlusion has been analyzed in 500 consecutive cases
Approximately 2/3 of the attacks occurred between the ages of 45 and 65 and almost 1/3 before 50 years The peak occurred in the sixth decade The number of initial attacks rose progressively until the age of 45 then a level was maintained until the age of 64 after which there was a rapid decrease The mortality rate varied with age increasing gradually until the age of 59 and rising sharply in the older age groups The commonest cause of death before the age of 50 was arterial embolism after 50 it was cardiac failure The ratio of men to women was only 3 4 1 The average age of the women was higher than that of the men and the incidence in women below the age of 40 was relatively smaller cardiac enlargement and heart failure increased with age being uncommon in the young Hypertension occurred in more than half the men and in 4/5 of the women The incidence rose with age from 36% in the fourth decade to 74% in the seventh decade
Charts

MASTER A.M JAFFE H L DACK S & SILVER N Blood pressure before during and after coronary occlusion
Am Heart J 26 92 107 July 1943
The course of the blood pressure before during and after the attack has been analyzed in 538 cases of coronary occlusion The incidence of hypertension increased with age The blood pressure fell to some extent in every case although in a few cases the fall was slight a transitory rise in pressure occurred infrequently at the onset of the attack A rapid fall was somewhat more common than a gradual one Occasionally the fall did not occur until after a week The lowest pressure was usually reached between the 12th and 20th days
The trend of the blood pressure was similar in the hypertensive and non hypertensive groups although a rapid fall was more common among the non hypertensive patients who died
The height of the blood pressure after the attack did not significantly influence the future course of the patient with respect to subsequent angina pectoris heart failure coronary occlusion or death

MASTER A.M MARKS H.H & DACK S Blood pressure in people over 40
J.A.M A 121 1251 1256 Apr 17 1943
Summary of the blood pressure readings on 14 849 persons over 40 years of age 8 483 men and 6 366 women Material was divided according to sex and 10 year age groups
1 In each decade of age a large portion of persons were found to be hypertensive
2 The incidence of hypertension rose with each decade of age up through the 8th decade and in the case of systolic hypertension up through the 9th decade Incidence of hypertension was higher in women and rose precipitously between 40 and 60 years of age faster than in men
3 Systolic hypertension increased more rapidly than diastolic hypertension resulting in an increase of pulse pressure with age
4 Since presence of hypertension at the age of 40 and over is so common that a mild or moderate degree can no longer be considered abnormal limits of normal blood pressure at these ages should therefore be raised
Tables

MASTER A.M & OPPENHEIMER E T Obesity circulatory roentgen ray and electrocardiographic investigations
J.A.M.A 92 1652 1656 May 18 1929
The obese person usually complains of dyspnea fatigue palpitation dizziness and headache With a reduction of weight these symptoms disappear
In this study 67% of the cases showed hypertension An accelerated pulse rate is commonly present In general the more the overweight the greater the hypertension With loss in weight a corresponding fall in the blood pressure and pulse rate occurred
Tables

MATTHES K & MALIKIOSIS X Blood pressure variations of vasomotor origin in man
Ztschr f d ges exper.Med 112 476 1943
The authors discuss the blood pressure variations and colume variations specifically the following (1) Traube Hering Meyer waves (2) Slow blood pressure variations (3) Non rhythmic blood pressure variations
The blood pressure variations are usually the opposite of the volume variations in such a way that blood pressure increases response to vaso constriction The blood pressure curve does not respond to a single volume curve but to the variations in resistance of the whole vasomotor system
Graphs

MAY H Systolic pressure in older persons
Med Klin 27 1816 1818 Dec 11 1931
An examination of 518 persons with or without vascular disturbances showed that their normal range of blood pressure was from 100 to 145 mm
Tables

MAYERSON H.S & BURCH G.E Relationships of tissue (subcutaneous and intramuscular) and venous pressures to syncope induced in man by gravity

Am J Physiol 128 258 269 Jan 1940

Venous and intramuscular pressures in the resting horizontal position are lower in individuals who develop postural syncope than in those who do not Tilting of individuals from the horizontal to the upright (75°) position is followed by immediate and simultaneous rises in venous subcutaneous and intramuscular pressures Subjects who do not develop syncope show a secondary usually more marked increase in intra muscular pressure during the upright period a change which is absent in those who show circular embarrass ment Intramuscular pressure is affected by the tonus of the muscle fibers as well as the amount of intra vascular and extravascular fluid present When tonus is low the value for intravascular pressure tends to approach that of subcutaneous pressure Syncope does not occur in the upright position if any significant amount of tonus is evident Likewise increasing the tonus by muscular contraction eliminates all signs of syncope The development of syncope in the upright position is due primarily to a diminished venous return which leads secondarily to vasomotor failure

Graphs

MAYO C.H Paroxysmal hypertension with tumor of retroperitoneal nerve case

J A M.A 89 1047 1050 Sept 24 1927

Case of tumor which was situated over the left suprarenal body beneath the tail of the pancreas Among possible causes for the hypertension irritation of the abdominal sympathetics by the tumor must be considered The patient suffered from sudden onset of discomfort in the precordium occipital headache generalized pallor cold and clammy skin and a peculiar choking sensation followed by nausea and vomiting these subsided in from 30 minutes to 3 hours

The immediate complete and permanent relief resulting from the removal of the tumor would seem to indicate that the latter was the sole cause of illness

McCANN W.S Orthostatic hypertension effect of nephroptosis on renal blood flow

J.A.M.A 115 573 578 Aug 24 1940

In some instances of nephroptosis the erect posture may result in orthostatic elevation of the blood pressure with diminution of the total venal blood flow and with relative constancy of glomerular filtration though the filtration fraction is increased The clearance ratio of diodrast to inulin is decreased in the erect as compared with that in the recumbent posture Patients with normal blood pressure and those with hypertension but without nephroptosis did not exhibit these changes

Tables Illustrations

McCLELLAN G.S STRAYHORN W.D & DENSEN P.M Review of 75 cases of eclampsia with particular reference to late cardiovascular renal effects

Am J Obst & Gynec 43 493 501 March 1942

A preliminary study of observations made on 75 patients diagnosed as having eclampsia at Vanderbilt University Hospital in the past 14 years An attempt was made to determine presence or absence of hyper tension vascular or renal disease Of the 75 cases 49 were primipara 6 were multipara Age of patients was 15 to 44 years Immediate maternal mortality was 13 3%

In general the evidence in this study does not indicate that individuals who have had attacks of eclampsia develop hypertension in any undue proportion However further observations are required before any definite conclusion can be reached

Even if a high relationship is shown it does not necessarily mean an etiologic relationship

There were no cases of chronic glomerulonephritis in the follow up group and in none of the 32 subsequent pregnancies was there any recurrence of eclampsia This supports Dieckmann s view that the incidence of recurrence is inconsiderable

The authors suggest the integration of a large number of laboratory clinical and epidemiologic observations as necessary to the solution of so complex a problem as eclampsia

Tables

MCCLELLAN W S JOSLIN E F & MAGUIRE G V Influence of natural carbonated mineral water baths on blood pressure and pulse rates

New York State J Med 34 101 104 Feb 1 1934

The subjects were 102 patients who received balneotherapy mainly mineral water bath 41 males 61 females over 40% were between 50 and 9 years 64 7% had some primary or circulatory disorder 18 patients suffered arthritis Of a series of 88 patients 9% showed reduction of systolic pressures of 11 or more mm.Hg and 20% showed similar change in diastolic pressures

A definite reduction was noted in the systolic blood pressure in approximately half the patients in the small series with initial pressure over 150 mm Hg Factors to be considered in relation to changes reported include the number of baths taken the amount of carbon dioxide in the bath duration and temperature of bath

In 77% of 66 patients the bath and the rest period following it resulted in a daily fall in blood pressure The attempt to find marked variation in the response of pulse rate before and after treatment is due to the fact that many patients exhibited normal pulse rate from the beginning

The authors summarize their results The results obtained appear to be a regulatory effect most likely produced through the autonomic nervous system the improvement was most noticeable in the patients where some nervous influence could account for the increased blood pressure

McGEORGE M Renal function and prognosis in benign hypertension
Quart.Med.J 14 171 182 July 1945

A comparison has been made between a renal function of 62 healthy subjects with normal blood pressure whose ages ranged between 16 and 80 years and that of 75 subjects with benign hypertension from 24 to 71 years of age The renal function was assessed by studying the concentration of urea and chloride in the urine after injection of 15 gr of urea The average renal function was not significantly different in young subjects whether hypertensive or not With increasing age a decline occurred in the renal concentrating power which was approximately 3 times as great in the elderly hypertensive group as in the elderly non hypertensive group

McGREGOR L Histological change in renal glomerulus in essential (primary) hypertension study of 51 cases
Am.J Path 6 347 366 May 1930

1 The glomerular lesion of essential hypertension is as typical as the arteriolar lesion
2 The arteriosclerosis precedes and is related to the change in the glomerular basement membrane
3 Kidneys from individuals dying in the 5th 6th and 7-8th decades with a history of normal blood pressure show 96 2% normal glomeruli
4 There are inflammatory glomeruli in any type of essential hypertension but they are most numerous in the renal group

McGUIGAN H.Z & HIGGINS J.A Changes in circulatory effect of potassium salts due to epinephrine
Am.J Physiol 114 207 211 Dec 1935

Observations made by the authors have led to the confirmation of Mathison s findings (1911) that intra venous injection of potassium salts causes a markedly different effect than the intra arterial injection Intra venous injection causes a primary fall in blood pressure followed if the dose be not too large by a relatively small secondary rise that potassium salts injected intra arterially elicit a pronounced rise of blood pressure which resembles the response to epinephrine

The authors have also found that the intravenous injection of a potassium salt immediately after or within a short time after adrenalin will elicit almost as great a rise in blood pressure as will the intra arterial injection Potassium chloride alone intravenously under certain conditions will give a great rise in pressure The action after adrenalin seems to be due to an increase in the potassium content of the blood There seems to be a direct relationship between adrenalin activity and the potassium of the tissues

The rise in blood pressure effect by the potassium salts alone or after epinephrine is due to a direct action on the blood vessel wall An increase in potassium content of the blood is necessary before the blood pressure raising action is effected

MCKEAN G T Management of patient with hypertension
J.Michigan M .Soc 41 565 566 July 1942

The supervision of the patient s life plays the largest role in our attempt to treat high blood pressure The author comments briefly

1 Well regulated exercise is a factor in the hypertensive s regime
2 Dietary measures are only of importance to the hypertensive obese If the patient is not over weight no special attention need be given to diet mea ures
3 Phenobarbital is a commonly used sedative sodium and potassium sulfocyanates are also used though toxic effects must be guarded against Blood determinations are useful means of checking this danger Nitrites continue to be used
4 Crile Adson and Peet perform surgical treatment Only after unsuccessful trial of medical management should the patient be given surgical option Occasionally gratifying results are obtained

McKINLAY P L & WALKER A.B Blood pressure in healthy adult males
Edinburgh M.H 407 420 Aug 1935

In this study the authors indicate the average values the variability and interrelationship of heart rate systolic and diastolic blood pressure pulse pressure and age in a series of 566 healthy men of ages ranging from 18 to 40 years average 23 years

1 The averages do not differ widely from commonly accepted standards
2 There is definitely a significant positive relationship between age and both systolic and diastolic blood pressure but not of such a degree as to form anything like a reasonably accurate basis for prediction Heart rate and pulse pressure are apparently independent of changes in age at this period of life
3 Positive association exists between heart rate and blood pressure and between systolic and diastolic and pulse pressures Correlation between diastolic and pulse pressure is negative and statistically significant
4 Significance of findings from the point of view of preventive medicine and general physiological teaching is mentioned and their relation to essential hypertension is discussed

Tables

MCLAUGHLIN C W.JR & LEVERING J W Effects of increased intra gastric pressure on thoracic and abdominal pressures
Surg Gynec & Obst 58 699 704 April 1934

Increases in the intragastric tension may cause profound changes in the cardiovascular system The inferior caval pressure progressively increased as the intragastric tension rose to 150 mm of mercury There resulted also an obstruction to the portal blood flow Marked changes are observed in the carotid and femoral blood pressure Evidence is presented to show that the distended stomach may cause tamponade of the abdominal aorta The primary cardiovascular effects are further exaggerated by the fluid lost by vomiting and flow into the intestinal tract The circulatory changes can only be prevented by preventing increases in the intragastric tension

Charts

McMASTER P.D & HUDACK S   Vessels involved in hydrostatic transudation
J.Exper.Med 55 417 430 March 1932
The grad ent of permeability which exists along the cutaneous capillaries and venules is accentuated and broadened in scope by increasing the venous pressure moderately Under such circumstances transudation lead..g to edema takes place most abundantly from the venules The permeability of the portion of the capillary web t.at is ca the arterioles increases only when the venous pressure rises so high as to approximate that in the arteries Under such circumstances the gradient of permeability along the small vessels disappears the cap llaries and venules everywhere leaking fluid The character of the vital staining developing under such circumstances indicates like the evidence of previous work that the cause for the gradient is to be sought in a structural d fferer ation
Illu trations

MEAKINS J   Art rial blood pressure clinical significance
Physiol.Rev 7 431-497 July 1927
A review of the observations on abnormal arterial blood pressure which are based on original investigations of the subject The variations in blood pressure caused by infancy childhood and adolescence pregnancy climacteric sleep etc are discussed The author writes about hypertension and visceral lesions chemicals and their effect on blood pressure and finally concludes with a discussion of hypotension

MEALS R W   Endocrines and arterial hypertension
M.J & Rec 131 205 209 Feb 19 1930
That endocrinopathies are primary causes in certain number of cases of essential hypertension seems established in view of the results of treatment of animal experimentation The endocrine hypertensions which go unre ognized and which are most common are the hypoactivities Pituitary insufficiencies are easily recognized by their somatic signs and simple tests
Association of obesity (90% of obesities are endocrine upsets) with hypertension has long been recognized The author considers the relationship between obesity and ovarian deficiencies associated with the menopause pregnancy etc
Proof of the theory that essential hypertension is due to overstimulation of the sympathetic nervous system is lacking but granting its possibility the cause of the overstimulation may be endocrine The author quotes evidence in favor of an endocrine factor in the production of vasomotor reaction of which hypertersion is one manifestation

MEDOFF H.S & BONGIOVANNI A.M   Age sex and species variations in normal rats
Am.J Physiol 143 297 299 Feb 1945
The blood pressures in a series of 130 Wistar Albino rats and 33 Wistar Gray Norways were determined
Results
1 The Wistar Albinos exhibit a definite tendency toward higher blood pressures with increasing age
2 No sex differences in blood pressure were noted in the Wistar Albino rats
3 There are no significant blood pressure differences between these two speci s
Tables

MED TIMES   Management of essential hypertension
Med Times,New York 76 61 73 Feb 1948
This summarization attempts to cover all of the known therapeutic informat on on the subject and is designed as a time saving refresher for the busy practitioner This extens ve summary cover the following aspects of hypertension
1 Definition
2 Classification according to Keith Wagener and Barker
3 Symptoms
4 Phases prehypertension neurogenic hypertension establ shed essent al hypertension malignant hypertension
5 Differentiation between those with so called transient hypertens on develope d as a result of emotional stimuli and unlikely to lead to nephritic or essential hypertension Page s tentat ve class fi ation of ea ly stag s of hypertension clinical picture of malignant hypertension d fferentiat on between malignant hypertension and renal failure and term nal glomerulonephrit s menopaus l hype t ns on
6 Medical treatment psychosomatic therapy d et (a low prote n and b s l free) we ght reduct on alcohol tobacco coffee and tea insomnia and the u e of s da on n tr tes th treatment purely symptomatic and without any alteration in the ur derlying pathology acetychol ne and digital s thyocyanate therapy a controversial issue kidney extract vitam ns rutin poster or p tu tary empha   on sel ct on of patient
7 Surgical treatment nephrectomy and sympathectomy
Charts and photographic illustrat ons

MEGIBOW R.S POLLACK H (et al)   The treatment of hypertens on by a celerated sod um d plet on
J.M ount Sinai Ho p N York 15 33 239 No 4 Nov Dec.1948
The treatment of accelerated depletion of body od um was nduced by restr cting the daily intake of sodium to 200 mg and by increas ng the rate of sod um excret on n the urine w th mercupurin. The eff cts of th s dual regimen were evaluat d n eight hyperten ve p tients The result support the theory that sod um depletion and ts assoc ated metabol c phenomena are the pr mary factors re pons ble fo the reduct on of elevated blood pressure by the use of the Kempner and other low salt d et The obs rvations appear to ind cate that the vascular alterations demonstrated plethysmographi ally and ophthalmolog cally and the elevations of blood press ure occurring in certain hypertens ve patient are med ated thro gh omewhat different mechan sms
Table

MELCHIONNA R   *Effect of theelol* (crystalline female sex hormone)

J Biol Chem 91 653 May 1931

The isolation of the crystalline theelol has led to a study of the effect of this compound upon the blood pressure heart rate and respiratory rate of anesthetized dogs

A solution of preparation M 184 was injected intravenously Blood pressure heart rate and respiratory rate were recorded before during and after injection 9 experiments were performed on dogs weight 8 to 16 kilos Nembutal was used in 6 experiments ether in 3 cases

No changes in the blood pressure heart rate or respiratory rate were observed other than those which occur spontaneously under anesthesia

MELVILLE K I   Pressor activity and stability of different mixtures of ephedrine and pituitary (posterior lobe) extract

Anesthesiology 7 176 189 March 1946

Because of previous encouraging reports deemed desirable to investigate the relative pressor efficiency for a number of different misxtures of (2) ephedrine (b) pituitary extract were examined since arbitrary choosing of ratio of these substances was done in previous studies

The mixtures employed were always freshly made before injection to get information regarding instability

4 ampouled mixtures with different ratios of ephedrine and pituitary extract (postlobin v) were tested for comparative effects on the blood pressure of the chloretonized dog in small and large doses It was shown that the dileterious effect of a large dose of pituitary extract can be completely abolished by relatively small doses of ephedrine

The most effective combination with respect to pressor activity and effective doses is a mixture of 4 8 mg of ephedrine to 1 unit of pressor pituitary extract

Large doses of the extract mixed with large doses of ephedrine lead to marked dileterious circulatory effects (ampouled and sterilized mixtures showed no significant loss of activity 7 to 11 months after preparation under refrigeration)

MELVILLE K I   Electrocardiographic and pressure changes induced by posterior pituitary extract (postlobin V) and influence of ephedrine thereupon

J Pharmacol & Exper Therap 64 86 110 Sept 1938

Simultaneous blood pressure and electrocardiographic changes following injections of large doses of postlobin-V have been studied in chloretomized and unanesthetized dogs with and without the vagi cut

It can be shown that associated with the fall in blood pressure thus observed there are characteristic alterations in the T wave of the electrocardiogram and some cardiac slowing After vagus section of the P wave is additionally reversed The ppearance of thi effect may be prevented by adminstration of ephedrine

The role of reflex vagus control in connection with these phenomena is discussed It i concluded that the changes in T wave produced by postlobin V represent ventricular effects resulting from anoxemia secondary to coronary constriction which would also appear to be responsible for both the slowing and P wave changes possibly from some effect upon A V node function due to the same factors

The data suggest further that postlobin V exerts no primary effect upon the myocardium or conducting mechanism of the heart even in the high dosages employed but that the above described effects are all secondary to its coronary constricting action

Charts

MELVILLE K I   Antisympathomimetic action of dioxane compounds (F 883 and F 933) with special reference to vascular respon es to dihydroxyphenal ethanolamine (arterenol) and nerve stimulation

J Pharmacol & Exper Therap 59 317-327 March 1937

A study to compare the influences of the dioxane compounds F 883 and F 933 upon the blood pressure responses to arterenol adrenaline and sympathetic nerve stimulation Also studied was the autonomic action of the benzodioxane compounds as compared with that of ergotamine The following observations were made

1 The dioxane compounds F883 and F933 exert a similar antisympathomimetic effect when tested upon the blood pressure of the chloralosed dog or cat with adrenalin and arterenol

2 Unlike the action of adrenaline that of arterenol is not reversed after injection of these substances The rise of blood pressure produced by splanchnic nerve stimulation is also not inverted

3 No essential difference could be detected between the anti sympathomimetic actions of these compounds and that of ergotamine

The author feels these data lend support to the possibility that arterenol may be the physiological chemical mediator of sympathetic nerve endings

Photographic diagrams

MELVILLE K I   Pressor and oxytocic fractions of posterior pituitary extract comparative effects on blood pressure and intestinal activity

J A M A 106 102 105 Jan 11 1936

The experiment shows that the blood pressures and intestinal actions of pituitary (posterior lobe) extract injected intravenously in the unanesthetized dog vary markedly with the fractions used even when equal pressor assayed dosages are employed

The presence of the oxytocic hormone may inhibit or abolish the typical effects of the pressor constituent Is is thus concluded that the pressor hormone per se causes under such conditions a fall of blood pressure stimulation of intestinal activity and defecation while the oxytocic constituent per se in sufficient dosages exerts a definite antagonistic influence in respect to these actions

These observations may explain some of the conflicting reports on the clinical usefulness of the agents in question

Charts

MELVILLE K I & STEHLE R L Antagonistic action of ephedrine (or adrenaline) upon coronary constriction produced by pituitary extract and its effect upon blood pressure
J Pharmacol & Exper Therap 42 455 470 Aug 1931
Experiments are presented which show that eph drine or adrenaline leads to augmentation in the pressor responses to small doses of pituitary extract injected into the intact anesthetized animal
E hedrine or ad enaline abolished or diminishes the depressor action following the injection of large doses of p tu tary extract in the intact anesthetized animal   o augmentation of action is observed when the heart is r laced by Gibb s artificial heart
E hedrine or adrenaline in suitable con entrations abolished the diminution in cardiac output following the i ject on of a large dose of pituitary extract in the heart lung preparation Large doses of ephedrine ac centuate card ac depression
The card ac role in these phenomena is demonstrated and the coronary dilating action of ephedrine and adrenaline which eliminates the constricting action of pituitary extract upon the coronary vessels is suggested as a plaus ble explanation

ENDEZ R & SOCI E The effect of some glycerin esters upon the blood pressure uterus and respiration
Federation Proc Balt 7 245 No 1 Pt 1 March 1948
The effects were studied of the acetyl esters of glycerin monoacetin diacetin and triacetin and the sulfo esters trisulfoglycerin and tetrasulfodiglycerin upon the blood pressure uterus and respiration Eviscerat d adrenalectomized ca s under Dial anesthesia were used Monoacetin up to 0 5 cc/Kg caused a small and brief decrease (12 20 mm Hg) in blood pressure with an uncertain effect upon the uterus and an in creas in respiration The same doses of diacetin caused a profound decrease in blood pressure (80 100 mm Hg) las ng 3 to 5 min a relaxation of the uterus lasting 10 15 mins and an increase in the rate and amplitude of respiration Triacetin 0 05 0 1 cc/Kg caused the same effects as Diacetin (0 25 cc/Kg) Thus the blood pressure decreasing effect increases with acetylation of the hydroxyl groups of glycerin Trisulfoglycerin and te rasulfodig ycerin in doses of 15 mg /Kg caused a pronounced increase in blood pressure lasting for 10 15 mins and a decrease in the rate and amplitude of respiration These experiments were concei ed to find in the glyceryl rad cal an effect which would exp lain the high potency of nitroglycerin as compared with the heavier organic nitrates and with sodium nitrite The results with the acetines support this assumption Work is contin ed with other esters The results with the sulfo-esters do not invalidate the idea as the introduction of the SO_3 usually cancels or modifies the effect of the original

MENNINGER K A Emotional factors in hypertension
Bull ew York Acad M ed 14 198 211 April 1938 al o Bull Menninger Clin 2 74 88 May 1938
The author defines hypertension as a condition in which not only the physical but also the psychological factors are easily recognizable
He considers the sources of psychological data concerning hypertension under the follow ng three headings
1 Transient hypertension in normal persons
2 Emotional pathology in hypertension
3 Therapeutic effect os psychological techniques in hypertension

MERRILL A WILLIAMS J R JR & HARRISON T R Site of action of renal pressor substance (renin)
Am J M Sc 196 18 23 July 1938
Injection of the renal pressor substance renin caused rise in blood pres ure after destructio of the spinal cord and after exclusion of the hypophysis adrenals pancreas liver and kidneys from the circulat on A vasoconstrictor effect of this substance was demonstrated in the i olated leg Although the character of the pressor response was not altered by removing the kidneys immed ately before the injection t was fo nd that the height and duration of the rise in blood pressure were increased in animals wh ch had been bj ted to nephrectomy 2 or 3 days previously
Charts

MEYER J & MULLEN T F Systol c blood pressure in cardiac decompensat on and dur g ompensation
Am Heart J 3 35 359 Feb 1928
35 unselected cases with severe cardiac decompensation were taken for study i 16 (45 7%) the systolic blood pressure fell from 10 to 40 mm as compen ation became establ hed Th s fall wa ob erved in case of (1) aortic regurgitation (2) mitral regurgitation (3) chronic myocard tis (4) emphysema (5) hron c nephri tis Of the e 15 were improved and d scharged death occurred in only one pat ent in whom th blood p es u e fell It i probable that a comb nation of mechanical f ctors and in reased tonus of the vasomotor center are respons ble for the in t al rise in systoli blood pres ure d ring decompen at on
Table

MILLER A Blood pres ure read ngs at St Quentin Prison
M Rec 146 3 5 Nov 3 1937
A stat stical survey of 1 038 blood pressure read ng wa done to d term n f there existed a def n te variation n either systolic or d astol c read ngs us n ly the age as a cr t on The e patient w e p ke t in chronol g cal order from the f le at the California State Pr son t San Qu nt There was no appar t on ta t var ation n the d fferent age groups
Tables

MILLER I Blood pre sure in aged
New Y rk State J Med 41 1631 1635 Aug 15 1941
In m n the average y tolic p e res were fro n 13 mm at 50 to 54 rs of ge to 1 mm a 85 to 89 years of ge The d astolic pre ure ri e onl sl ghtly w tl e a i g ge The pul e pre r ro e from 46 m n to 71 mm In women the s stol c pre sure wa from 155 at 50 to 54 ars of age t 176 at 80 to 84 years of age The diastol pre sure wa ra ed only sl ghtly The pulse pressu e w ed onl sl ghtly S stol c and pulse pre sure were higher in the women th n n t e men n all age g oups e cpt in the to 89 ge r g oup
T bles

MILLER J L & WILLIAMS J L The effect on blood pressure and the non protein nitrogen in the blood of excessive fluid intake

Tr Ass Am Physicians Phila xxxv 68 76 1920

An investigation to determine whether by increasing the fluid intake to a high point the nitrogen elimination could be increased as shown by the reduction in the non protein nitrogen in the blood Three detailed case reports are presented Two are cases of hypertension and the third a typical chronic gout of 10 years duration The results are summarized

1 In patients with hypertension and presumably chronic interstitial nephritis large amounts of fluids may cause a very decided increase in blood pressure

2 In the three cases studied the urea nitrogen in the blood showed no change Since nitrogen eliminated in the urine during this period was not determined this does not exclude the possibility of increased nitrogen output

3 In two of the three cases uric acid in the blood was definitely lessened

Tables

MILLER M.L Findings in relation to inhibited aggressions in psychotics

Psychosom Med 1 162 172 Jan 1939

A study of a total of 193 psychotic patients I A group of 116 cases 60 paranoid 33 depressed and 23 schizophrenics II A group of 77 cases in which the blood pressure was predicted on the basis of psychological examination before being taken was used as a control

The author gives examples of blood pressure correlation with chronic emotional states The author writes In the 193 cases studied there appears to be a significant correlation between the repressed hostile emotion and the degree of elevation of blood pressure The study suggests that where there is a chronic psychological tension arising out of chronic inhibited hostile impulses chronic elevation of blood pressure may result

Tables

MOE G K M MALTON S.D FREYBURGER W & RENNICK B Role of arterial pressure changes in induction of epinephrine cyclopropane idioventricular rhythms

Proc Central Soc Clin Research 20 24 1947 J Lab & Clin Med 32 1415 Nov 1947

Ventricular extrasystoles ventricular tachycardia or ventricular fibrillation can be regularly produced in dogs under cyclopropane anesthesia by doses of epinephrine ranging from 1 0 to 10 mic per kilogram

The authors have been able to demonstrate that dibenamine (dibenzyl d chlorethylamine) prevents ventricular ectopic rhythm because it prevents the pressor response to epinephrine

Although a rise of arterial pressure greatly facilitates the induction of idio ventricular activity by epinephrine the direct accelerator action of the drug is also important for elevation of pressure alone will not usually produce more than occasional ventricular extra systoles associated with reflex vagal swelling of the sinus node

MOFFAT W.M Effect of pituitrin injections in man on blood pressure

Am J M Sc 186 854 860 Dec 1933

One cubic centimeter of obstetrical pituitrin was given by intramuscular injection to 62 individuals and the blood pressure observed at 9 intervals of from 2 to 60 minutes No constant changes in the blood pressure were observed In a few cases there was marked change in blood pressure but this was as often downward as upward The general trend of blood pressure was except for light transient rise immediately following injection downward rather than upward There wa a slight but constant decrease in the pulse pressure In general the higher the initial pressure the greater the fall following injection of pituitrin The possible mechanism of this greater fall in hypertensive individuals is suggested

Charts and Tables

MOOG O & VOIT K Hypertension in young subjects

Munchen med Wchschr 74 9 12 Jan 7 1927

Sixteen cases of young subjects ranging from 16 to 28 years of age Their blood pressures were from 140 to 215 The early appearance of hypertension could probably be attributed to an inherited predisposition

MOON V.H Atheromatous degeneration of arterial wall result of hydrodynamic mechanism

Arch Path & Lab Med 3 404-408 March 1927

The proposition that arterial hypertension produces local anemia in the artery wall is capable of a mathematical demonstration The local anemia thus produced may be a cause of atheromatous degeneration This explanation is in agreement with many known facts concerning the occurrence and course of such degeneration

Diagrams

MOOR F.B Autocondensation in hypertension a critical study

Arch Phys Therap X ray Radium Omaha vii 397 404 1926

This paper reports a study in the use of autocondensation in hypertension According to the author it comprises a rather incomplete study of some of the physiological actions of autocondensation and of its clinical application in 92 cases of hypertension compared with 54 controls There are three factors in the reduction of blood pressure by autocondensation

1 Stimulation of the vasomotor mechanism
2 Increase in body temperature
3 Increased excretion of waste products especially nitogenous waste

The results are that in the presence of organic renal and vascular disease autocondensation is not of much value but may be considered a useful adjunct in cases of essential hypertension

Graphs

MOORE A G   Observations on 293 examinations of 50 cases of essential hypertension
✓J.Indiana M.A 27 509 512 Nov,1934

In practically all of the patients who had been under treatment from 2 to 6 years there has been no decrease in either the systolic or diastolic blood pressure. There is no therapeutic measure which exerts a constant beneficial influence on established cases of essential hypertension

The progress of the pathology in the living patient with hypertension is shown in that there is

(a) A constant increase in the size of the heart

(b) A constant increase in the degree of arteriosclerosis of the aorta as indicated by the accentuated aortic sound.

(c) A constant increase in sclerosis of the peripheral vessels as indicated by the increase in the palpable radial arteries

MOORE R.L.   A study of the Hering Breuer reflex
J.Exp.M 46 819 837 1927

The author discusses the effect of the following experiments

1 The cutting of one vagus nerve on the respiratory movement of each lung
2 The blocking of one bronchus on the respiratory movements recorded by the opposite lung
3 Occlusion of the right bronchus plus right sided vagotomy on the ventilation of the left lung
4 Occlusion of the right bronchus plus right sided vagotomy on the ventilation of the left lung after division of the right phrenic nerve
5 Occlusion of the right bronchus plus right sided vagotomy after division of the pulmonary branches of the left vagus nerve

The general conclusions from these experiments are

(1) Passage of air in and out of the trachea
(2) Expansion and collapse of the lung
(3) Existence of the normal pulmonary circulation in the vagotomized lung
(4) Normal fluctuations in alveolar carbon dioxide tension
(5) Contraction and relaxation of the diaphragm on the side of vagotomy

Tables

MORITZ A.R., & OLDT M.R   Arteriolar sclerosis in hypertensive and nonhypertensive individuals
Am.J Path 13 679 728 Sept 1937

The initial section of the paper deals briefly with the general characteristics (race sex age) of a representative chronic hypertensive group as revealed by an examination of clinical and autopsy records of 200 cases

The major part of the study concerns 200 cases 100 with no history of hypertension 100 who were known to have had chronic hypertension The two groups were comparable with regard to age sex and color

The extensive analysis discusses the following aspects of arteriolar sclerosis

1 Pathological histology of chronic arteriosclerosis
2 Pathological changes in arterioles of hypertensive and nonhypertensive patients
3 Occurrence of various histological types of chronic arteriolar changes in hypertensive and ninhypertensive patients
4 Measurements of wall thickness of arterioles with comparisons of hypertensives and nonhypertensives
5 Impressions as to the pathogenesis of arteriolar sclerosis
6 Correlation of arteriolar sclerosis and chronic hypertension
7 Types of chronic hypertension

Tables charts and colored illustration

✓MORLOCK C G & HORTON B T   Variations in systolic blood pressure in renal tumor study of 491 cases
Am.J,M.Sc 191 647 658 May 1936

The material used for study consisted of records of patients with renal tumor admitted to the Mayo Clinic from 1912 to 1934 491 cases 340 or 69% male 151 or 31% females In 459 cases record of the pre op rative systolic blood pressure was available Only these primary readings when the patient first has his blood pressure measured were used for the sake of uniformity Arbitrary division of renal tumors into two groups was made (a) hypernephromas (b) tumors of other types

The analysis shows striking uniformity of the readings of systolic blood pressure for the various histological types of renal tumor No consistent alteration in blood pressure occurred following removal of a tumor of either type No constant increase in the blood pressure of patients who were suffering from renal tumors was found Worthy of note is the fact that the experimenters failed to substantiate the observation of previous investigators that a marked fall of an antecedent hypertension followed removal of a hypernephroma The authors suggest that this study offers clinical evidence that an epinephrine like pressor substance is not produced by the hypernephromatous type of renal tumor

Tables and Charts

MORRIS D P   Blood pressure in normal individuals under emotional stress relationship to emotional stability and instability
Psychosom.Med 3 389 398 Oct 1941

Purpose to test the thesis that vascular changes might be used as an index of emotional stability by instability as determined by interviews but comparing vascular changes under emotional stress not only with instability as determined by interviews but also with follow up study

A study of 62 student nurses and 17 student pilots in which presence of emotional instability was investigated blood pressure and pulse rate readings were taken subject to report obtained and observation made on presence of pallor tremor etc Follow up studies were also conducted Results Reactions on pulse rate were extremely common R

1 Systolic blood pressure elevations of 10 to 30% were and blood pressure and instability were more variable

2 No correlation was apparent between changes in pulse rate

MORRIS D P   Effects of emotional excitement on pulse blood pressure and blood sugar of normal human beings
Yale J Biol & Med 7 401 420 May 1935

A definite hyperglycemia has been demonstrated in 5 individuals in association with prolonged and seve e emotional excitement Elevations of the systolic blood pressure of 20 mm and more have be n shown con istently in 26 patients under conditions of slight emotional excitement Less consistent but d finite rises in the diastolic blood pressure and pulse rate are recorded for the same 26 patients The relation of pulse and blood pressure and blood sugar to introspective behavioristic and external bodily changes has been studied definite internal physiological reactions have been noted in the presence of slight no no external manifestat ons Five cases were observed in which clearly abnormal changes in one or more of the physiological variables may be of pathological significance

MORSE W B & BEH Y T   Blood pressure amongst aboriginal ethnic groups of Szechwan Province West China
Lancet 1 966 967 April 17 1937

A study of the blood pressure readings taken in the course of securing anthropological data of three isola ted ethnic groups The samples number respectively 143 150 and 105 and the results include systolic diastolic and pulse pressures correlated with age Brief observations are made concerning climatic conditions occupa tion diet and general way of life of the three groups Tables

MORTENSEN A V   Relation of hypertension to vascular disease
New Orleans M & S J 99 56 71 Aug 1946

The relation of hypertension to vascular disease is considered from three perspectives

1 Pathologic variations of the normal physiologic actions which serve to maintain a normal blood press ure (a) hypertension due to alteration in the pumping action of the heart thyrotoxicosis tachycardia aortic regurgitation and heart clot (b) hypertension due to an increa e in the viscosity of the blood polycythemia vera (c) hypertension due to decrease in the elasticity of the arterial walls arteriosclerosis (d) hypertension due to an increase in blood volume coarctation of aorta (e) hypertension due to an increase in the peri pheral resistance associated with ischemia of the brain

2 Pathologic changes in variou tissues and organs which are acknowledged to be secondary to hyper tension (a) nervous system (b) cardio vascular system including heart blood and blood vessels (c) retinal field (d) the pulmonary system

3 The relation of arteriosclerosis to hypertension

MORTENSEN M A   Blood pressure reactions to passive postural changes an index to myocardial efficiency
Am J M Sc 165 667 675 1923

The author studied 90 young women from a Physical Education Normal School with no evidence of cardiac disease in order to find the normal reaction of blood pressure and pulse rate to passive postural change in the healthy individual

Observations were also made on other groups of individuals The author reaches the following conclusions:

1 A drop of more than 6 to 8" in the systolic pres ure in changing from the reclining to the erect posture may be viewed as an evidence of myocardial inefficiency

2 Rise in diastolic pressure is an index to the response of vasomotor mechanism to assist the heart to maintain circulatory equilibrium against the influence of gravity

3 The pulse rate increase with change of position is greater than that noted with active postural change indicating increased effort on the part of the heart to work against the influence of gravity

4 This test is applicable in cases of angina pectoris or advanced arteriosclerosis where exercise tests are contraindicated Cases of angina pectoris uniformly show a decided drop in systolic pressure

The test is uniform for all individuals as it practically eliminates all but the factor of gravity in the circulation Easily applie without discomfort to the patient it can be used at intervals to note progre s in the management of cases and as an index to the influence of digitalis or exercise on m ocardial efficiency Charts

MOSCHCOWITZ E   Psychogenic origin of organic diseases
New England J Med 212 603 611 April 4 1935

In the evaluation of the psychogenic factor two elements must be consid red first the underlying per sonality or constitution which as a general rule is phenotypic and secondly the exciting factor wh ch is in the nature of an emotional insult or conflict

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The e maladies are distingu s ed by several features

1 From the physiological point of view they represent exaggeration of normal function

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MOSCHCOWITZ E Hypertension of pulmonary circulation its causes dynamics and relation to other circulatory states
Am.J.M.Sc 174 388 406 Sept 1927
The author discusses the following
1 Circumstances under which hypertension of the lesser circulation occurs
2 Changes in the circulatory dynamics resulting from hypertension in the lesser circulation
(a) Increase in venous pressure (b) Cyanosis
3 The clinical recognition of hypertension of the pulmonary artery
4 The relationship of other circulatory conditions to hypertension of the lesser circulation
5 The relation of primary pulmonary arteriosclerosis to hypertension of the lesser circulation
6 The relation of edema of the lungs to hypert nsion of the lesser circulation
7 Relation of disturbances of cardiac rhythm to hypertension of the pulmonary circulation

MOSCHCOWITZ E Hypertension with minimal renal lesions
J.Am M.Ass Chicago lxxvii 1075 1081 1971
1 5 cases are reported in which hypertension and other clinical evidences of nephritis were present although the kidneys showed but slight lesions
2 These cases show that clinical and postmortem nephritis are by no means synonymous
3 These observations lend no support to the belief that the hypertension of chronic nephritis is of renal origin but they are not inconsistent with the thesis that hypertension is one of the factors in producing nephritis.
4 Evidence is adduced to show that arterio capillary fibrosis is merely the localized and prominent manifestation of a generalized capillary and vascular disease
5 Evidence is again submitted that the lesions of the secondary contracted kidney in which hypertension is present and the decrescent kidney in which hypertension is slight or absent are morphologically identical The hypothesis is submitted that whereas in secondary contracted kidney the most important factor in its production is vascular hypertension in the primary and benign contracted kidney it is vascular tension
Illustrations

MOSENTHAL H O Clinical aspects of hypertension including malignant hypertension
Bull New York Acad.Med 14 349 360 June 1938
The clinical aspects of hypertension are considered and some of the facts suggested to the examining physician by a blood pressure reading have been analyzed
Four aspects of the hypertensive states are given more detailed treatment
(1) Hypertension accompanying albuminuria (2) Hypertension as a sequal to renal disfunction
(3) Idiopathic (essential(hypertension (4) Malignant hypertension

MOSENTHAL H O Clinical interpretation of hypertension
Illinois M J 56 406 411 Dec 1929
The author warns of the danger of making a diagnosis of hypertension too simple by quoting a systolic pressure only and thus dividing the human race into three classes Those with an average blood pressure and those with hypo and hypertension The error lies in the fact that hypertension is the result of many factors which not only have prognostic significance but also require various therapeutic measures if they are to be treated effectively
The author attempts to prove his point by presenting various tables of blood pre sure readings
Tables

MOSENTHAL H O The treatment of high blood pressure
Med Clin.N Am Phila v 1139 1160 1921 1922
The author discusses thefollowing
1 The relation of the kidneys to essential hypertension
2 The part played by the vascular system in producing hype tension
3 The cause of the increased heart action and tonicity of the arterioles in hyp rten on
4 Why should hypertension be reduced ?
5 The control of hypertension (a) the effect of protein in the die (b) th eff ct of carbohydr t s in the diet (c) the effect of fats in the diet (d) the effect of sod um chloride upon blood pressure (e) the effect of fluid intake upon blood pressure (f) control of blood pressure by el x o (g) the use of drugs to control blood pressure

MOSENTHAL H O The influence of protein food on increased blood press re
Tr.Ass Am Physici ns Phila xxxv 88 96 1920
A study of 9 cases who were confin d to bed and fed a low protein diet for a pe iod lasting from 8 to 67 days
From the observations it would appear that t is exceptional that a low protein d et would dim n sh the blood pressure or a high protein diet would ra se t The d minut on of the w ste products n th blood as ind cated by a lowering of the blood urea n trogen wa w thou eff ct upon the blood p sure Changes in the calo ic val e of the diet for a short t me at l ast d d not influence the blood pressure
Tables

MOSENTHAL H O &SHORT J.J The spontan us variab lity of bl od pres ure a d the effects of d et upon high blood pressure with special referen e to sodium chloride
Am.J.M.Sc Ph la clxv 531 550 1923
In d scussing the variability of blood pre sure the author report the findings n a series of observat on on cl nic o tp tients The author state m ked spontaneous vari tions o cur d in the blood p essu e of individu ls In ca es of hypertension a very grea d minution of a terial press re usu lly occurs d r ng periods of m ntal and physical elaxation This variability in blood pressu e has not been accord d suff i nt attention when the effect of di t drugs etc upon arteri l hype t nsi n ha been stud ed

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Charts

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2 They are essentially human diseases and with doubtful exception they cannot be produced experimentally in the lower animals

3 Their life cycle is characterized by a great tendency to recurrence

2 Reduction of spinal fluid pressure with injection of 50% solution of sucrose
3 Profuse diuresis follows injection
4 Intravenous injection of hypertonic 50% sucrose solution is effective in reducing the elevated spinal fluid pressure that occurs in advanced arterial hypertension diuresis is established and the aggravating symptoms such as headache vomiting vertigo twitching and dizziness have been relieved

MURPHY F.D., WOOD R M & GRILL J Hypertensive heart disease clinical pathologic manifestations
Minn.Med 20 627 641 Oct 1937
Hypertensive heart disease is the result of the combined action of hypertension and arteriosclerosis of the coronary arteries The heart which has been overstrained by persistent hypertrophies becomes impoverished by lack of proper nutrition due to coronary sclerosis and fails as a result of a combination of these two forces

A statistical analysis is made of the chief clinical features and the frequency of their occurrence is discussed. The treatment of hypertensive heart d sease is considered in the paper

MURPHY R.J F Plasma volume red cell volume and extravascular thiocyanate space changes in patients on rice diet
Jour Clin.Invest XXVIII 800 1949
Observations of t e plasma volume and red cell volume of 19 patients on the Kempner rice diet have been made The period of observation was 14 weeks 16 of the 19 patients showed significant loss of plasma volume Mean loss in these patients was 14% Decrease in red cell volume was a constant finding in all 19 cases and showed no simple relation to fluid loss

MUSSER J.H & WRIGHT D C Hypertension obesity and hyperglycemia
J A.M.A 101 420-425 Aug 5 1933
A group of 30 obese hypertensive women exhibited a marked lowering of sugar tolerance A second group of fat individuals without hypertension are shown not to have a hyperglycemia The authors believe that it seems reasonable to assume that there is no one factor d finitely responsible for the combination of obesity hypertension and hyperglycemia unless it is obesity The reduction in weight is often associated with a lowering of the blood pressure and return of a sugar tolerance to normal

MUSSEY R.D HUN T A.B & SLUDER F.S Hypertension and pregnancy
Am.J Obst & Gynec 45 224 235 Feb 1943
Elevation of blood pressure above the average limits of normal is the most significant symptom of the tox mia of preg ancy Hypertension is present consistently in the majority of diseases which are called toxemias of pregnancy
There is a notable lifference between chronic vascular and renal disease which is present prior to pregna cy and acute hypertensive disease arising during pregnancy
The con ept o the presence of spasm of the arterioles as the predominant factor in the product on of hypertension in the acute toxemias of pregnancy has been generally accepted Various hypotheses have been advanced concerning the cause or causes of this arteriolar spasm but none have been proved to t e sati faction of a majority of observers
The American Committee on Maternal Welfare classified toxemias of pregnancy with hypertension as the common denominator of the following two large groups (1) Chronic vascular disease or renal disease with hypertension (2) Acute hypertensive toxemias
A d scus ion of I Card ovascular and Renal Disease
II Acute hypertensive Disease (Pre Eclampsia and Eclamp ia)
III Management of hypertension toxemias of pregnancy
Tables

MAYER-GROSS W Psychoses associated with hypertension arteriosclerosis and heart failure
J Ment.Sc 83 551 561 Sept 1937
There are two main types of psychotic symptoms in which a close association between increased blood pressure and psychosis has been establi hed One is given the name twil ght state the other is characterized by episodi emotional flu tuations
The twilight states have the common feature of a more or less severe d m ming of consc ousness The emot onal changes are mostly depressive often with some anx ety or of a paran d kind w th ncreased irr tability

NAKASHIMA Y Therapeutic value of negatively ionized air
Jap.J.M.Sc VIII Int Med Pediat & Psychiat 4 140* 141* Feb 1936
The cause of the beneficial therapeut c effect of ionized air for hypertension is not known The author susp cts that the ionized air has an effect on the per pheral or vas ular mu cle causing a dilat on of the pr cap llaries

NARUT L F & TURNBULL G C Dangers from the use of the r ce d t
J Laborat Clin.M 33 1468 No 11 Nov 1948
The re ults of the rice diet and more l beral diet have be n recorded n the tr atm nt of 7 pat ent with hypertensive cardio vascular disease Support v ca e reports po nt out th t a s mple convent nt cr t r n of the urine specif c gravity tends to indic te that one group of patients s benef ted by the r c d e anoth r s unaffected while till a third on is made wor e

NELSON H R High blood pressure and its treatment by the high frequency current
Canad.M.Ass.J Toronto 686 688 1926
Improvements in high blood pressure are brought about with the high frequency currents as they have a very decided and reliable action in promoting vasomotor dilatation by enlarging the lumen of the small vessels the capacity of the whole arterial tree is increased and as there is the same amount of blood present in this reservoir the tension must be and is lowered wherever this action is able to overcome this exciting cause

NESBIT R I Nephrectomy influence upon hypertension in 49 patients with demonstrable unilateral renal disease
Brooklyn Hosp.J 5 5 27 Jan 1947
Chronic arterial hypertension may be of renal origin In cases where unilateral renal disease is demonstrated by roentgenography it can be treated by nephrectomy with expectation of improvement or cure of the associated hypertension in about half the cases
In the present series of cases (49) the greatest incidence of favorable results occurred in adult patients with chronic pyelonephritis hydronephrosis and calculous pyonephrosis In that group of cases termed by the researches infantile pyelonephritis the incidence of cure is definitely less than in the adult type
The author recommends routine urologic studies in all patients with hypertension regardless of the high over all cost entailed for a significant number of gross renal lesions could not otherwise be found
Discussion Tables and Plates

NESBIT R M & RATLIFF R K Hypertension associated with unilateral nephropathy
J Urol 43 427 447 March 1940
The authors state that nephrectomy appears to be a justifiable procedure in cases of unilateral pyelonephritis with associated hypertension A reasonable expectancy for improvement may be hoped for in this group provided the functioning capacity of the remaining kidney is unimpaired Secondary vascular changes elsewhere in the body may militate against expected recovery
Two cases of obstructive nephropathy with resultant hypertension have been presented
One case of malignant hypertension which occurred 10 years following traumatic injury to the kidney is reported
Illustrations

NEUHOF H Gangliosympathectomy and bilateral hemiadrenalectomy for severest grade of hypertension
Ann Surg 128 787 790 No 4 Oct 1948
The author outlines various procedures added to the customary dorsolumbar operation to improve results of sympathectomy in cases of severest grades of hypertension He describes a procedure used in 4 cases which consisted of the removal of approximately the upper half of each adrenal gland at the time of sympathectomy Types of operative cases are commented upon together with operative results The author writes Theoretically at any rate subtotal adrenalectomy for hypertension appears to parallel subtotal thyroidectomy for Grave s Disease
Discussion by Dr.A W.Adson Rochester Minnesota

NEUHOF S Problems in hypertension an attempt to correlate hypothetical and practical considerations
Am.J.M.Sc Phila clxviii 668 683 1924
The author divides hypertension as found clinically into certain groups which cover the majority but not all hypertensive conditions He presents his problem In the light of physiological pathological experimental and clinical data to try and discover and where necessary to theorize frankly as to the possible basic etiological insult for the hypertension
The author presents case histories throughout his discussion What I have attempted to do is to elucidate and correlate apparently contradictory views and have above all tried to find an underlying fundamental cause which may perhaps tend to harmonize conflicting views to show how functional changes may act and re act upon an existent pathology minute or gross and how such morbid interactions once established may eventuate into increasingly severe pathological destruction

NEUMANN C COHN A.E & BURCH G E Influence of character of examining room on peripheral blood vessels of hypertensive subjects
J Clin Investigation 21 651 654 Nov 1942
Objective evidence supports the belief that the conditions under which physiological studies are carried out must be suitably arranged not only to assure uniform temperature humidity and state of digestion but also less tangible factors such as the patient s mental comfort and the degree of his relaxation
Blood pressure readings were taken in various types of rooms The results were different varying with the room

NEWELL J L & SMITHWICK R.H Pregnancy following lumbodorsal splanchnicectomy for essential and malignant hypertension and hypertension associated with chronic pyelonephritis
New England J Med 236 851 858 June 5 1947
A report of 14 cases of pregnancy all patients having arterial hypertension blood pressures averaging 190 systolic 130 diastolic on admission prior to splanchnicectomy Blood pressure reactors were studied by the postural and cold test in the first trimester and in most cases at 7 months of pregnancy and at 6 weeks post partum Average age at delivery was 31 years average parity 2 3 Blood pressure following splanchnicectomy prior to the pregnancies averaged 135 systolic 87 diastolic and only 2 patients had persistent albuminuria Details of the nature of the hypertension involved are presented together with brief abstracts of the case reports The authors present the following conclusions

1 It is known that lumbodorsal splanchnicectomy is a useful therapeutic measure in the treatment of hypertensive and hypertensive cardiovascular disease

2 Following a satisfactory response to operation pregnancy if carefully supervised appears to be safe and permissible

3 The experiences presented lead the authors to believe that following this operation certain hypertensive women may be able to tolerate pregnancy which would otherwise be impossible or extremely hazardous This is particularly true in the younger age group with severe essential and even malignant hypertension

Charts

NIEUWMEIJER A.H & BRANDSMA K Blood pressure levels in the Netherlands during the war
Arch.Int.M 83 429 453 o 4 April 1949

A study of 250 factory workers with respect to blood pressure pulse rate weight body length age and the results of the cold pressor test The results are as follows

1 In view of the fluctuating nature of the blood pressure it is better to describe the blood pressure level in terms of a range rather than as a certain static average

2 Blood pressure values of 70 to 85 mm diastolic 100 to 130 mm systolic and reaction of 20 mm must be accepted as normal

3 It is not possible to live at too high or too low a vascular tension without experiencing the consequences in the long run

NIX J T Clinical and electrocardiographic findings in 100 cases of hypertension
N Orleans M & S.J 86 683 685 1934

A study of 100 cases taken from consecutive records of 851 clinic patients examined during a period of 7 months This represents incidence of hypertension in 8 5% of all ambulatory patients

The author presents the readings with sex distribution together with observations on complaints occupation habit digestive system micturition family history weight urinary findings phenosulphonepthalein test Wassermann test teeth tonsils gastro intestinal tract

A detailed study of the cardiovascular system was made

The author submits a number of brief conclusions

Charts

NUZUM F.R & DALTON J W Paroxysmal and persistent hypertension in association with lesions of adrenal glands
Am.Heart J 16 643 662 Dec 1938

This paper summarizes clinical instances found in the literature of hypertension ascribed to hyperplasia or tumor of the cortex of the adrenal gland A case reported with marked hyperplasia of the adrenal cortex and a cortical denoma apparently responsible for the development of hypertension in a patient with evident card ac decompensation

The second presentation records history of a patient in whom a diagnosis of pheochromocytoma of the adrenal medulla was made with complete disappearance of the symptoms following surgical removal of the tumor

Tables Plates

NUZUM F.R OSBORNE MARGARET & SANSUM W.D The experimental production of hypertens on
Arch.Int.Med Chicago xxxv 492 499 1925

Three groups of rabbits placed on high protein diets each group on a different type of prote n dev loped an increased blood pressure

Evidence of renal irritation was offered by the appearance and persistance of albumine and ca ts in the urines of these animals and by a retention of nonprotein nitrogen and urea nitrogen n t e blood There also was evidence of acidosis as shown by a continued decrease in the carbon dioxide of the blood plasma of the oat and liver protein groups of animals This decrease in the carbon dioxide was not pres nt n the soy be n group whose urines were alkaline

It is suggested that diets containing an excessive ac d or alkal n ash necessitating the excretion of excessively acid or alkaline urines over long periods of time might in themselves be respons ble f r d g neration in blood vessels and kidney ch nge

Charts

NYLIN G & LEVANDER M Studies on the c rculation with the a d of tagged erythrocytes in a ca of orthostatic hypotens n (asympath coton hypoten on)
Ann.Int.M 2 723 746 No 4 April 1948

The authors d scribe in outline the oper tive factors in adjustment of the c rcul t on to th erect posture and present a classif cation of orthostatism to a d fferenti l d agnos s and etiology Spec al stud es on the circulation were carried out and the circulatory corpus ular volum det m ne with the aid of tagged erythrocytes The authors write

A typical case report of postural asympathicoton c hypot ns on is cons d red n det l The conclusions to be drawn from these studi s on changes in the c rculatory corpuscular volume in a typ cal case of po t ral hypot ns on w en th po it on of the body s changes i th t the very sharp fall n blood pressu e s a ompan ed by a slow ng of the c r ul t on n the va ious parts f the body and a consequent delay n the m x ng of the orpu cl s

24 genuine case of postural hypotension (18 male 6 femal) age range 34 to years a rage g 5 years are cons de ed with the above ca e h story A rvey of the following aspect of p tural hyp tens on i made 1 Occurrence 2 Subje ti e and obj ct ve symptom 3 D agno is 4 Et ology and patho enesi 5 Loc tion 6 Cour e and progr s 7 Therapy 8 Pha macological preparat ons

Charts

OBERMER E   Blood pressure during sleep and during psychic trauma
Verhandl d deutsch Gesellsch f Kreislaufforsch 230 231 1933

The author used the auto tonograph to measure the blood pressure of patients with various diseases In most of these cases the blood pressure went down during sleep However the blood pressure went up during the sleep of patients with psychological disturbances

The author explains this phenomenon the following way The patient can sublimate or repress his problems during the day by working or just keeping busy during sleep however this mechanism does not work and the patient s problems are active again

ODEL H.M   Structural changes in arterioles of myocardium in diffuse arteriolar disease with hypertension group 4
Arch.Int.Med 66 579 602 Sept 1940

Purpose of the study was to investigate the report (Fishberg Pilsher and Swab) that when hypertension is present changes noted in the arterioles of other organs are almost never observed in arterioles of myocardium

48 patients 33 male and 15 female aged 7 to 75 years average age 43 5 years having diffuse arteriolar disease with hypertension group 4 (malignant hypertension) were studied clinically

Clinical laboratory pathological and histological observations were reported including case reports of 3 patients Results

1 Indications were found that in the presence of diffuse arteriolar disease with hypertension group 4 structural changes in varying degrees of severity occur in arterioles of myocardium

2 Structural changes in myocardial arterioles were not observed in all cases but when occurring changes similar to those occurred in other organs in the same case

3 Analysis of clinical features suggests that syndrome of malignant hypertension is a clear cut clinical entity

4 It appears therefore that malignant hypertension is a diffuse arteriolar disease and that no organ subjected to elevation in systemic blood pressure can escape entirely
lustrations

Arteriolar changes in myocardium in diffuse arteriolar disease with hypertension group 4
Staff Meet Mayo Clin 14 210 214 April 5 1939

Gross pathologic changes in the heart were studied in 48 cases of diffuse arteriolar disease with hyper tension group 4 or so called malignant hypertension As a comparative study the ratios of the wall to lumen of arterioles in the lectoral muscle were computed in 20 of the 45 cases of malignant hypertension and 58 non hypertensive cases The author presents the following conclusions

1 Structural changes in the myocardial arterioles do occur in the present of malignant hypertension

2 The changes in the myocardial arterioles in malignant hypertension do not occur with any degree of consistency nor in every case and when occurring are much less pronounced in other organs in the same case

3 Marked variation exists in the degree of change among different cases and also noticeable variation in the degree to which different vessels are affected in the same case and a definite segmental distribution of the changes in the same vessel

4 Diffuse chronic fibrosis occurs more frequently and to a greater degree in the myocardium of patients with malignant hypertension than in the myocardium of non hypertensive patients

ODELL L.D & ARAGON G T   Cold pressor test and kidney function
Am J Obst & Gynec 54 867 871 Nov 1947

A report of the effect of a prolonged ($6\frac{1}{2}$ minutes) cold pressor test on blood pressure and renal function A total of 14 pregnant and non pregnant women were selected for study

The authors present the following summary of their findings   Under constant conditions of water in take and urine excretion the immersion of one hand to the wrist in ice water may reduce the urine collected per minute the urea clearance rate and the renal excretion of chlorides per minute This phenomenon may be associated with an increase in urine protein excretion Those patients not responding to the ice water stimulus tended to have a lower urine volume or urea clearance rate initially and exhibited a less pronounced increase in systolic and diastolic blood pressure
Charts and Tables

OGDEN E & SHOCK N W   Rate of stabilization of systolic pressure following adoption of supine posture
Quart.J.Exper Physiol 28 341 348 Dec 1938

A change in systolic blood pressure was observed during the first 10 min of a series of successive mes surements made in the supine posture On the average this was a fall The experimental findings are pre sented as group average plots and as frequency curves Experiments in which manipulation nervousness and rest following activity were controlled suggested that none of these was the cause of this fall The fall was pro duced by the change from the erect to the supine posture The probable mechanism of the change and its sig nificance in estimating resting blood pressure in an individual are discussed No comparable change was ob served in diastolic blood pressure
Graphs

O HARE J P   Management of Bright s disease and hypertension
New England J.Med 212 1197 1 02 June 27 1935

1 Acute hemorrhagic nephritis Cure consists of bed rest if necessary for months The patient should not be allowed up until the urine sediments show no red blood cells for at least two weeks There are two diet etic principles (a) limitations of fluids (b) the avoidance of prolonged underfeeding

2 Nephrosis Same treatment as in 1 with addition of a diuretic

3 Vascular hypertension and chronic vascular nephritis A psychological treatment is in order The patient should be made to realize that his condition is not serious but that he just has to slow down a little

O'HARE J.P The heart and its management in hypertensive disease
Rhode Island M.J., Providence ix 1 3 1926
The author's conception of hypertensive disease is that it is a generalized circulatory disorder made up of three elements (1) increased blood pressure (2) a generalized sclerosis of the small arteries perhaps varying in degree in different parts of the body (3) the resultant secondary changes in various organs
In general, the treatment of the heart is the treatment of the whole vascular disorder There should be a definite cutting down of physical and mental effort and all exciting influences should be removed as far as possible When attention must be given to the heart the treatment is exactly the same as that of cardiac disease in other conditions

O'HARE J.P & WALKER W.G The heart in hypertension
Boston M.& S.J., cxc 633 636 1924
A presentation of 100 cases - average age 55 years blood pressure from 152/76 to 290/170 average 22/ 0 and discussion of chief symptoms and signs referable to the heart in pure vascular hypertension
Dyspnea is the most frequent symptom In 28% the diagnosis chronic myocarditis was made Edema of legs varying in degree was found in 29% of the series
Of the signs hypertrophy is of course by all means the commonest abnormality found It was found in 5.5% of the cases
The prognosis of the heart in hypertension depends upon three elements (1) The amount of strain (2) The condition of the coronary arteries (3) The condition of the myocardium which may be the result of factors (1) and (2)

√O'HARE J.P & WALKER W.G Observations on salt in vascular hypertension
Arch.Int.Med Chicago xxxii 283 297 1923
The authors experiences with extremely low salt intake for the treatment of hypertension do not indicate any special advantage over the less rigid restriction The very low salt diet is difficult to carry out at home This paper suggests that salt plays little part in vascular hypertension
Charts

O'HARE J.P., WALKER W.G & VICKERS M C Heredity and hypertension
Tr.Ass.Am.Physicians Phila xxxix 320 324 1924
The authors analyzed the family histories of 300 unrelated cases of permanent hypertension In 204 (68%) of this group there was a definite history of apoplexy heart disease nephritis arteriosclerosis or diabetis in one or more members of the patient s family
A control series of 436 consecutive cases of non vascular disease was used In this control group there was a percentage incidence of familial vascular disease of 37 6%
The authors draw the conclusions from their study that heredity undoubtedly plays one of the most important roles in the production of hypertensive disease

√OHLER W.R Signs and symptoms of hypertension
Am.Heart J 2 609 612 Aug 1927
Signs and symptoms of hypertension referred to in this paper concern signs and symptoms of cardiovascular disease or cardiovascular renal disease
The data are composed of personal observations at the Metabolism Clinic at Boston Hospital
The paper attempts to trace the development of hypertension from early to adult life in the belief that evidence is sufficient to accept vasomotor disturbances as possible early signs of cardiovascular disease and that heredity and environment play a large part in the development of this condition
Tables

OLIENSIS A.E Hypertension and its management
M.Rec 140 313 315 Sept 19 1934
The author discusses the causes of hypertension assigning prime etiologic importance to heredity He discusses a simple classification of the various forms of the disease and its effect on the heart brain and kidneys
Essential hypertension and malignant hypertension are treated in somewhat more detail with reference to symptoms diagnosis pathology and prognosis
Finally treatment of the disease is considered sedation being used as the most important measure Other devices mentioned are removal of infection diet hydrotherapy drugs and psychotherapy

OLSON W.H & NECHELES H Vasopressor effect of thermal trauma
Am.J Physiol 139 574 582 Aug 1943
Convinced that the pressor effect of burns was not due to any single factor the authors performed 125 experiments on dogs and cats to analyze the phenomenon of blood pressure change during burns The following observations are recorded
1 During and following burn a rise of blood pressure occurred and in many experiments pressure remained elevated for considerable time following
2 Scalding of denervated foot caused slight drop in blood pressure scalding of normal foot resulted in marked blood pressure rise
3 Splenectomy adrenalectomy or splanchnicectomy did not abolish pressor effect of burns
4 Hypophysectomized animal exhibited a marked fall in blood pressure when burned
5 The acetychol ne vasodepressor response was inhibited in severe burns
6 A pressor substance could be demonstrated in blood from burned animals but part of it effect seemed due to hemolysis
7 Renin was excluded as major factor in vasopressor effect of burns
8 Rise of blood pressure following burns seems to be due to a combination of several factors nervous hormonal and hemolyzed blood
Tables and Charts

OPPENHEIMER B S & FISHBERG A M Hypertensive encephalopathy
Arch Int Med 41 264 278 Feb 1928 abstr Tr A Am Physicians 42 96 113 1927
The acute cerebral episodes of diffuse glomeruolnephritis the toxemia of pregnancy and acute lead poisoning are symptomatically identical consisting of such symptoms as epileptiform convulsions coma violent *headache cerebral vomiting and such focal cerebral symptoms as aphasia amaurosis and hemiplegia*
The cerebral episodes occur only in patients with arterial hypertension and are generally preceded by an additional rise in blood pressure above the previous high level For this reason the term hypertensive encephalopathy is proposed for the acute cerebral episodes occurring in hypertensive states
The hypertensive encephalopathy is not the result of impaired renal function so the term acute uremia is a misnomer
Available evidence indicates strongly that the hypertensive encephalopathy is the result of cerebral anemia produced by cerebral vasoconstriction The cerebral edema which is present in some but not in all of the cases is secondary to the vasoconstriction though the exact mechanism of the connection is not clear While the cerebral edema produces symptoms in some cases it is not the essential course of hypertensive encephalopathy
Charts Tables

OPPENHEIMER B S KLEMPERER P & MOSCHKOWITZ L Evidence for Goldblatt mechanism of hypertension in human pathology
Tr A Am Physicians 54 69 81 1939
A study to determine to what extent the Goldblatt mechanism may be applied to the explanation of hypertension in man The authors find that although the Goldblatt mechanism for the experimental production of hypertension in animals is beyond question there is as yet not sufficient evidence that the same mechanism plays a role in human hypertension except inisolated cases

ORENSTEIN L L Blood pressure in young Negroes
War Med 4 422 424 Oct 1943
Of 3 000 young southern Negroes examined 5 8% showed elevated blood pressure This figure represents an actual incidence of hypertension in an unselected group of Negroes with or without minor physical defects which could not be considered responsible for high blood pressure
The ratio of rejections due solely to hypertension for the Army s Fourth Service Command during the period of study was 3 97% Negroes to 1 047 white men
The incidence of hypertension in young southern Negroes is higher than in white persons of similar age groups

ORNSTEIN G G LICHT S & HERMAN M Raising pressure in surgical shock by faradic stimulation
Arch Phys Therapy 21 329 335 June 1940
Based on Henderson s concept of venous pressure collapse and its close association with hypotonia of the ekeletal muscles the authors conceived the thought of producing a contraction of large areas of skeletal muscles to force the stagnant capillary blood out of the muscles back into the venous circulation and in that manner stave off circulatory failure Technique of skeletal muscle contraction by stimulation with faradic current is described
41 persons (TB hospital patients and resident medical staff) were subjected to faradic muscle stimulation venous pressure being measured before and after stimulation
The authors feel the material is too scant for definite conclusions

ORNSTEIN G G LICHT S & HERMAN M Method of raising pressure (stimulation of voluntary muscles by faradic current) *to be used in surgical* and traumatic shock (preliminary report)
Quart Bull Sea View Hosp 4 333 338 April 1939
The authors considered that in cases of shock if they could stimulate contractions in the voluntary muscles they could sufficiently raise the venous pressure and return enough blood volume to the right heart to function physiologically and thus in turn supply sufficient blood to the left heart which would be pumped through the arterial system and prevent anoxemia in the tissue resulting from deficient arterial circulation
Venous pressure in 38 young adults varies from 4 5 cm water to 20 cm of water average *10 cm* water After faradic muscle stimulation the increase in venous pressure varied from 1 4 cm water to 10 cm water In 4 out of 5 cases there was also increase in arterial pressure 4 cases of shock were due to anesthesia and 1 of trauma was also observed in the same way
Two conclusions are given
1 The stimulation of the voluntary muscles by the faradic current will raise the venous pressure
2 This method of raising venous pressure may be of help in the treatment of surgical or traumatic shock

ORR J B & INNES I The effect on arterial hypertension of increased fluid intake
Brit J Exper Path Lond iii 61 71 1922 1923
An investigation of the influence on protein metabolism of a sudden increase in the amount of water passing through the system Experiments were conducted on A 2 healthy subjects with normal blood pressure *B 2 subjects with pressures above normal* but with no evidence of kidney lesion C 14 pathological cases with a markedly raised blood pressure The following conclusions are reached by the authors
1 Both in apparently normal subjects and in pathological cases with high arterial tension copious ingestion of water is followed by a decrease in blood pressure
2 It is suggested that the fall in pressure is due to the elimination of pressor substances that cause arterial constriction
3 When diuresis is unable to keep pace with the intake of water as may occur in renal inefficiency the fall in pressure is preceded by a rise above the original level

O'SULLIVAN F Blood pressure on descent into mines with special reference to miner s nystagmus
La et 47 249 Aug 1 1936

An investigation to determine what changes in blood pressure take place during descent into mines and whether these have any relation to miner s nystagmus

25 healthy miners were examined before and after descent and a rise of systolic pressure was found in all of them In some of the cases of latent nystagmus the systolic pressure had risen more than 10 mm Similar observations were made on 25 men suffering from miner s nystagmus

These results suggest that men who have nystagmus are also relatively susceptible to changes in blood pressure on descent

OWENS F.M.JR Relief of chronic hypertension by excision of pheochromocytoma
Arch.Surg 59 896 902 No 4 Oct 1949

The emphasis is on importance of considering pheochromocytoma as a real possibility in all cases of hypertension especially when the explanation of the symptoms and hypertension is not completely satisfactory

Pheochromocytoma is invariably fatal if the tumor is not removed A case of chronic hypertension caused by pheochromocytoma and cured by the removal of the tumor is reported

The extra adrenal location of the tumor emphasizes the fact that exploration of the adrenals at the time of sympathectomy may not reveal the tumor Tests for epinephrine producing tumors are simple and can be utilized to advantage in the study of the hypertensive patient
Tables Plates

PADDLE K C L Blood pressure in insane
J.Ment.Sc 74 733 738 Oct 1928

A study of 9 0 male cases with various forms of insanity Blood pressure readings are recorded according to age and type of insanity The author comments on the findings and several conclusions are presented The following general statement is made

It is clear therefore that the mental symptoms in the insane bear no relation whatever to the blood pressure the cases with epilepsy being excluded In the latter it is probable that the lower pressure is related to the epilepsy and not to the mental symptoms presented
Tables and Charts

PADIS N Paroxysmal hypertension caused by adrenal tumors 3 cases
Clinics 4 87 96 June 1945

Three cases are reported to emphasize the clinical importance of any hypertensive st te especially paroxysmal type of hypertension among the younger group pro clinical judgement to mark d scovery of hypertension in the young patient by labelling it essential hypertension and looking for time and nature to work things out

A clinical outline is presented derived from the literature and the three ca es presented which aims to emphasize only the outstanding clinical findings

The investigators conclude that any case of paroxysmal hypertens on espec ally among the youthful and middle aged is a potential case of adrenal tumor unless it is proved otherwise

PAGE E W & OGDEN E Physiology of hypertension in eclampsia
Am.J Obst & Gynec 38 230 239 Aug 1939

Changes in cardiac output blood viscosity or widespread organic arterial changes do not account for the hypertension observed in the eclamptogenic toxemias From a phys ologic standpoint the imme diate cause of this hypertension is a functional and diffuse arteriolar constriction

An increased activity of the vasomotor centers by direct or reflex stimulation ca not be eliminated as a cause of this increased peripheral resistance but in eclamps a the e centers are not abnorm lly sensitive to psychic or thermal stimuli

The vascular pathology of eclampsia requires the postulate of a circulat ng factor which b haves as a vascular toxin Chorionic tissue is probably responsible for this factor a d the stimulus for its production may be an inadequacy of mat rnal blood supply to the placenta

This vascular toxin might produce hypertens on in one of everal ways It may a t d rectly as a pressor agent or accentuate the action of other known pres or agents It is known to produce glomerular damage in the e lamptogenic toxemias This renal damage m y influence the vasomotor centers r flexly or th result ng reduction of blood supply to the k iney ay g ve rise to hyperten ion through th mechan sm of renal schemia The available experimental evidence bearing on such hyptheses is d scu ed

PAGE E W PATTON H.S & OGDEN E Effect of pregnancy on experimental hyp rt nsion with observations on effects of dec duoma
Am.J Obst & Gynec

The purpo e of the study was to investigate factors c ncerned w th unfavorable influence of pregnancy on human hyperten ion

Rats and rabb ts were stud ed having experimental hypertens on during pregn ncy or p udopregn ncy with deciduomas Results

1 Pregnancy appears to have a b nefic al effect on experimental renal hyperten ion in rat or rabbit
2 When the blood flow is l m ted during pregnancy th on et of hypert nsion is delayed until after p t urition It us ally appears with a f w days n non pregnant co trols
3 Pseudopregnancy w th dec duomas also lowe s blood press re of hypertensive rats
4 The find gs suggest that the cau e for blood pressure f ll observed more l kely results from endocrine changes than from act on f f tal kidney
Cha ts

PAGE I.H A progress report of investigations concerned with the experimental treatment of hypertension with kidney extract
Ann.Int.Med 18 29 1943
The author reports that improvement in preparation of kidney extracts has been made in that local and general reactions have been much reduced in number and severity An in vitro assay method depending upon the ability of kidney extract to destroy angiotonin has been devised Two enzymes which destroy angiotonin are contained in kidneys one with optimal activity at about pH 4 0 and the other at about pH 7 5 The latter enzyme appears abundantly in the more active anti pressor extracts
It was also observed that kidney extract increases cardiac output in hypertensive patients when arterial pressure falls and tends to restore the contour of the ballistocardiographic curve from that usual in hyper tension to normal
Charts

PAGE I.H Studies on the mechanism of arterial hypertension
J A M A CXX 757 1942
An assessment is made of various approaches to the problem of hypertension i e nervous systems kidneys surgery renin angiotonin The last is described in detail it is a heat stable dialysable material with strong pres or properties There is evidence that angiotonin is an especial type of peripheral vasocon strictor it is unusual among pre sor substances in its ability to produce just the kind of vasoconstriction which is present in essential hypertension Rabbit s ear perfused with this substance shows vessel constriction indistinguishable from that in which experimental renal hypertension has been induced This is important evid ence that real similarity exists between the action of the humoral agent of hypertension and angiotonin Then changes of intrarenal circulation in regard to angiotonin are discussed The cardiodynamic effects which are very profound are then dealt with Force of the heart beat and the efficiency of the muscle of the hea t are in creased by angiotonin There is evidence that profound similarity in cardiodynamic effect of angiotonin and cardiodynamics of naturally occurring hypertension exists
A discussion of kidney extracts then follows under the following headings
1 Presence of a vasoconstrictor substance in the renal vein blood and peripheral blood
2 Angiotonic destruction and angiotonases
3 Action of kidney extract on renal hemodynamics
4 Effect of kidney extract on cardiac output
5 The outlook for kidney extracts as therapeutic agents
Tables

PAGE I.H Pressor response of hypertensive dogs to renin (kidney extract) and angiotonin
Am.J Physiol 134 769 797 Nov 1941
The problem of whether or not no more than normal amounts of renin and angiotonin in the blood would be required to cause hypertension is of importance because of the belief that they may be involved in the genesis of chronic arterial hypertension
1 The pressor respon e to renin and angiotonin is not consistently altered by moderate pentobarbital anesthesia The initial arterial pressure level of hypertensive dogs may be profoundly altered by anesthe ia
2 The pressor response of different animals varies widely but that of the same animal is relatively con stant even at different times
3 The pressor response to angiotonin and renin is not directly related to the initial arterial pressure The means employed to lower or raise the pressure appears to determine in large measure the response
4 Induction of hypertension in dogs does not alter the pressor response to angiotonin but increases that to renin slightly especially if the renin is administered by infusion
Induction of experimental renal hypertension in dog does not increase the pressor response to angiotonin On the other hand in such animal renin causes somewhat greater respon es The increased response to renin appears to be due to greater formation of angiotonin from combination of renin and renin activator and is not the result of increased sensitivity of the vascular system of hypertensive animals

PAGE I.H Arterial hypertension (Ramon Guiteras lecture)
J Urol 46 807 831 Nov 1941
A review article summarizing current knowledge of arterial hypertension with particular emphasis on
1 Experimentally induced hypertension
2 Factors controlling pressure level increased peripheral arteriolar resistance and augmented force of heart beat
3 Nervous mechanisms noting that pressure reduction with beneficial effects may follow sympathectomy may last for several years but is eventually lost
4 The endocrine system and hypertension noting that glands other than pituitary and adrenals play little or no role in hypertension
5 Humoral mechanisms the effort to find a substance responsible for hypertension with characteristics consonant with anticipation based on knowledge of the physiology of hypertension
6 Physiology of angiotonin and renin
7 Reasons for believing that the kidneys in particular contain an inhibitor or anti pressor substan e Evidence is now incontrovertible that blood pressure can be lowered for periods of months to years by injection of kidney extracts Mechanism by which this results is unknown

PAGE I.H Management of Bright s disease
Jour.Ind.State Med.Assn 33 337 1940
The author distinguishes and describes three stages of Bright s disease 1 The acute stage 2 The chronic stage 3 The terminal stage
Discussed are the following I Edema II Infection III Rest IV Diet V Heart failure VI Hypertension VII Convulsions and cerebral complications VIII Anuria

PAGE I,H Demonstration of liberation of renin (kidney preparation) into blood stream from kidneys of animals made hypertensive by cellophane perinephritis

Am.J.Physiol 130 22 28 July 1940

A study of the blood from normal kidneys and kidneys with their parenchyma constricted by the fibro colagenous hull incited by cellophane or silk perinephritis Conclusions

1. Renin is liberated into the renal vein in increased amount by the kidneys of dogs made hypertensive by cellophane or silk perinephritis and by clamping the renal artery Most of it disappears by the time the blood has reached the femoral artery

Renin activator is decreased in the blood from the renal vein and is increased in hypertensive animals when the femoral artery is reached

3 Angiotonin activator is not greatly decreased in the renal vein blood but may be increased in the fem oral arterial blood in hypertensive animals

4 Early in the course of malignant hypertension large amounts of renin are liberated by the kidneys (1 experiment) Later both angiotonin activator and renin activator are greatly reduced or sufficient inhibitor is formed to abolish the reaction between them and angiotonin or renin (7 experiments)

Tables

PAGE I,H Production of persistent arterial hypertension by cellophane perinephritis

J.A.M.A 113 2046 2048 Dec 2 1939

Perinephritis has apparently not been recognized as a possible cause of arterial hypertension

Severe arterial hypertension was produced in animals by means of perinephritis induced by cellophane and silk As a result of the perinephritis a thick fibrocollagenous constricting hull is formed around the parenchyma but avoiding the pedicle Renal ischemia is thus produced by a method different in principle from clamping the renal arteries

Removal of the offending kidney or the hull around the kidney abolishes the hypertension

Denervation of the renal pedicle does not prevent the development of hypertension when perinephritis is induced

Bilateral adrenalectomy in untreated animals abolishes the hypertension If treated with adequate amounts of sodium chloride and adrenal cortex extract slight hypertension persists

The amount of the substance in the blood which combines with renin to form a pressor substance (renin activator) is increased

Perinephritis may be an additional cause of arterial hypertension in man

Charts Illustrations

PAGE I,H Clinical study of malignant hypertension

Ann.Int.Med 12 978 1004 Jan 1939

1 Study of 30 hypertensive patients 19 male and 11 female aged 14 to 48 years average age 33 years Hypertension was malignant in each case from onset The patients were followed at intervals for periods up to 7 years

2 Diagnosis and clinical course are described

3 Differential signs and symptoms elicited by both bedside and laboratory examinations usually d stinguish this syndrome from chronic nephritis and essential hypertension

4 Injury to vascular system was widespread the clinical picture includes manifestations of the d sorde especially in the h art kidneys eyes and brain

5 Application and results of methods suitable for demonstrating and folowing course of this syndrome a e described

Tables and Charts

PAGF I,H Medical aspects of surgical treatmert (resection of spinal nerve roots and of splanchnic nerve and thoracic ganglions)

J.A.M.A 110 1161 1165 April 9 1938

Two surgical treatments seem most likely to be of value in the treatment of hypertension (A) resect on of the anterior spinal nerve roots (B) resection of the splanchn c nerves

For the first best clinical results were obtained in relat vely young persons with essent al hypertension exhibiting signs and symptoms of the hypertensive diencephal c syndrome and patient with malignant hyper tension

20 patients were subjected to (A) and 9 to (B) In the op nion of the a hor the majority of the patients with essential hypertension can st ll be treated best by medical m ans The operation may howev r be des r able in the early stage of malignant hypertension and for yo ng pat ents exh b t ng the hypertensive di ncephalr syndrome

In (B) the arterial pressure was markedly reduced for days and weeks after the operation W th n nine months the pressure had returned in all cases to or close to the preoperat ve level

It appears that while resect on of the splanchn c ner es produced many of the effects that are observed after sect on of the anterior roots they are often more tran ent

The author bel eves that surgical methods designed to a d n the treatment of hypertension are st ll in the experimental stage It is by no me ns certain what the theoret cal bas s is in cases of hypertens on for per forming operations in which large vascular areas are denervated

Tables Charts

PAGE I,H Vasopressor act on of extra ts of plasma of normal dogs and dogs with experiment lly produ ed hypertension

Proc.Soc.Exper.Biol & Med 35 112 116 Oct 1936

The object f th s investigation is to asc rtain whether the hypothesis that a pressor substance is liberated by the kidneys as a result of ischem a which might be respons ble for hypertension could be supported by ex- p rimental evidence

The hypertension produced in dogs by means of compression of the renal artery is not shown by the method employed to be caused by liberation of pressor substances into the blood stream which act directly on the peripheral blood vessels to cause vasoconstriction

The known pressor secretion of the pituitary gland is not present in amounts large enough to be detected by the method employed in the blood of animals with hypertension

Tables Charts

√ PAGE I.H Syndrome simulating diencephalic stimulation occurring in patients with essential hypertension
Am.J M.Sc 190 9 14 July 1935

A syndrome has been described which is observed in its fully developed form largely in young women suffering from essential hypertension but components of which may occur in many cases of essential hypertension The signs and symptoms so closely resemble those resulting from irritation of sympathetic and parasympathetic centers in the diencephalon and possibly the promotor area of the cortex as to suggest that they originate there Phenomena also occur in these patients which suggest strongly regression to more archaic emtional patterns possibly leaving their genesis in the thalamus and hypothalamus

PAGE I.H Relationship of extrinsic renal nerves to origin of experimental hypertension
Am.J Physiol 112 166 171 May 1935

The study is based upon the hypothesis that the elevation of blood pressure associated with either inflammatory or vascular disease of the kidneys may be due to nervous impulses originating in the kidneys and conducted by way of the extrinsic renal nerves to the vasomotor centers This was tested experimentally by severing the nerves of the renal pedicles before subjecting animals to two different procedures for the production of hypertension of renal origin Conclusions

1 Since the production of arterial hypertension in dogs by constricting the renal arteries or by irradiation of the kidneys with x ray is not affected by preliminary stripping of the renal pedicle of its extrinsic nerve supply these nerves do not appear to participate in the genesis of renal hypertension

2 Hypertension produced by constriction of the renal arteries does not result in significant changes in the proteins or lipids of the plasma The hemoglobin content of the blood is slightly elevated Renal efficiency as measured by the content of urea in the blood is not markedly altered and bears no relationship to the height of the blood pressure as Goldblatt Lynch Hanzal and Summerville have already found

Tables and Charts

PAGE I.H Effect of renal efficiency of lowering arterial pressure in cases of essential hypertension and nephritis
J Clin.Investigation 13 909 915 Nov 1934

The object of the investigation was to compare efficiency of excretion when blood pressure is at high level with that when it was reduced to substantiate or refute compensatory theory as applied to patients suffering from hypertension

The urea clearance test of Moller McIntosh and van Slyke was used for the comparison on 6 patients 2 with malignant phase of essential hypertension 2 with moderate hypertension 2 with hemorrhagic Bright s disease

The efficiency of the kidneys was not altered by a marked fall in arterial blood pressure or induced by potassium thiocyanate orally or colloidal sulfur intramuscularly in patients with essential hypertension These two drugs showed no detrimental action on kidneys of patients with essential hypertension (in proper dosage and short periods of time)

Renal efficiency did not change in patients with Bright s disease with a fall in arterial blood pressure or as a result of renal denervation

This abnormal elevation of blood pressure in these cases does not appear to assist in maintenance of renal efficiency

This evidence does not support the compensatory theory of the cause of hypertension in patients suffering from nephritis or essential hypertension

Tables

PAGE I.H Effect of diathermy treatment of kidneys on renal function as measured by urea clearance test
J A.M.A 102 1131 1132 April 7 1934

Diathermy treatment has been given to 14 subjects for one hour periods No significant change was observed in the blood pressure or in the renal function as measured by the urea clearance test diuresis or blood urea The results afford no support for the assumption that renal diathermy is of therapeutic value in essential hypertension or Bright s disease

Tables

PAGE I.H & CORCORAN A C The renal pressor system and experimental and clinical hypertension
Recent Progress in Hormone Research Proc of the Laurentian Hormone Conference
Academic Press Inc N Y V 3 325 1948

The purpose of this paper is to review pertinent points concerning the renal pressor system and to integrate these into the phenomena of experimental renal and clinical hypertension The presentation is composed of the following sections (1) Renin (2) Experimental renal hypertension with a discussion of renal ischemia (3) Renin substrate (4) Angiotonase (5) Angiotonin (6) Relation to hypertension (7) Participation of the central nervous system (8) Other pressor systems

In the discussion of renal ischemia the authors point out that in 80 to 90% of clinical hypertension in the early phase there is neither structural nor functional evidence of renal damage Renal damage in hypertension is evidently more a result than a cause of the condition It is concluded that from clinical and experimental aspects it seems that experimental renal hypertension has much in common with the clinical disease This similarity explains the resurgence of interest in renin and the discovery of the renal pressor system

PAGE I.H & CORCORAN A C Renal function in late toxemia of pregnancy
Am.J.Med.Sc 201 385 1941

Observations on the rate of renal blood flow and on the proportion of water removed from plasma by glomerular filtration (filtration fraction) were made in cases of late toxemia of pregnancy

The filtration fraction was found to be decreased in some increased in others and within normal limits in still other cases

The persistance of hypertension has been associated with a decrease in renal blood flow and increased filtration fraction presumably the result of efferent arteriolar constriction

Clinical observation in patients whose filtration fraction was increased suggest that these suffered from pre-existing or previously latent essential hypertension No definite classification was made of those cases where renal blood flow and filtration fraction were within normal limits The clinical course in both these latter groups was mild

Tables

PAGE I.H CORCORAN A C & TAYLOR R D Diet in the treatment of hypertensive disease
Postgrad.M 5 211 218 No.3 March 1949

The authors review I The low caloric diet II The low protein diet III The low salt diet IV The Kempner rice diet V Low cholesterol diet

The physiological effects of the diets are discussed The descriptions of a few clinical studies follow which lead the authors to believe that there is no method short of trial which will tell which patient will respond to dietary measures

Tables

PAGE I.H CORCORAN A C & TAYLOR R.D Management of hypertension
Postgrad.Med 1 436 447 June 1947

The authors suggest that instead of the old way of measuring blood pressure and excretory functions and grading the disease according to severity one can perhaps arrive at least at the beginning of an etiological specification The hypertensive becomes a mosaic in which the central nervous system the endocrine glands and the kidneys all contribute their part in varying degrees The most important phase in the managem nt of the young hypertensive is the emphasis that should be placed upon the value of examinations during the comi g years Sympathectomy operation and thyocyanate drugs are discussed as therapeutic measures n hypertension

PAGE I.H & HEUER G.J Effect of renal denervation on level of arterial blood pressure and renal f nction in essential hypertension
J Clin.Investigation 14 27 30 Jan 1935

This is a case in which bilateral renal denervation in a patient suffering from severe essential hyper te sion did not change the level of arterial blood pressure hence the results give no ground for expecting that derervation in cases of essential hypertension is of therapeutic value

No ill effects either renal or extrarenal were observed after the denervation Rer l eff ciency as mea sure by the urea clearance test and the ability of the kidneys to concentrate was n rmal before the operat on and remained unchanged after denervation

The results do not support the hypothesis that es ential hypertens on orig nates in whole or n part in the nervous mechanism of the kidneys

Charts Tables

PAGE I.H & OTHERS Reducing property of extracts of k dneys in hypertens ve patients and animals
Ann.Int.Med 15 347 389 Sept 1941

A study has been made of the effects of parenteral njections of extracts of whole kidn y on 280 hyper tensive dogs 13 patients with malignant hypertension and 6 pat ent w th essential hypert ns on C se records with detailed bedside charts are presented and the clinical result summ ariz d under the head ngs (1) Effect on arterial pressure heart and kidneys (2) Ocula changes (3) Urin and blood ch anges

The untoward reactions to kidney extract are considered The authors wr te Arter al blood pr ssure has been significantly reduced and other object ve as well as s bjective gns of i nprovement ha e occurred sufficiently to justify further experimentation in research clinics Bec u e f occa onal shock like reaction and the lack of standard chemical procedures whi h yield a form p oduct of h gh potency t cannot at pre sent be con idered a practical treatment

Extensive Tables and Chart

PAGE I.H & OTHERS Reduction of arter al pr ur of hypert ns ve pat ents and an mal with extract of k ineys
J.Exper Med 73 7 41 Jan 1941

Extracts of ki iney have been prepared co ta ning a substan e which lowers art r al blood pressure for p olonged per d in patients with es ential and malignant hypertension nd hypert n ve dogs and rats Lowering of the blood pressure too rap dly n mal results n a sho k yrdrome wh h n y be f t l Lower ing of blood pressure to nearly normal level has been accompl sh d in 60 hypertens ve dogs Several p t ents with essent al and mal gnant hypertens on have been tr ted Th length o time the blood p s u e r m ins lowered va ie greatly n both an mal and man

PAGE I.H & SWEET J E Effe t of hypopl ysectomy on arter l pres ure of dog w th experimental hyper ten on
Am.J Phys ol 120 238 24 O t 1937

A study to det rm ne wh ther the hypophy is i conce ned n the genesis of l yp rtension r s lt ng from con t iction of the renal art ry

1 Hypert nsion of the o der of 240/160 mm Hg wa produced nd m inta ned f r ve al months in dogs by means of Goldblatt cl mp Hyp physe t my in th se n als redu ed the art ri l pre su e to l vels l ghtly above or b low norm l w thin 0 days Hypophy ectomy n no mal dogs redu d the a te l pre s e only slightly

2 Increasing the constriction of the renal arteries after hypophysectomy again produced a rise in blood pressure The rise was better maintained in dogs which were thin and active and with normal or elevated basal metabolism

3 After hypertension had been reduced by hypophysectomy feeding thyroid (0 8 grams) raised the blood pressure moderately and injections of theelin (1 cc daily) or antuitrin S (1 cc daily) had no effect

4 The effect of hypophysectomy on hypertensive dogs is believed to be an indirect one It is postulated that the responsivene s of the blood vessels to clinical stimuli from the kidneys with constricted renal arteries is reduced This may be due to lack of the secretions of the adrenal and thyroid glands
Charts

PAGE I.H TAYLOR R.D CORCORAN A C & MUELLER L.B Correlation of clinical types with renal function in arterial hypertension effect of spinal anesthesia

J.A.M.A 124 736 737 March 11 1944

A procedure is suggested as an objective basis for the selection of patients for thoeacolumbar sympa thectomy

Spinal anesthe ia was administered to 8 patients tentatively identified as neurogenic and 6 desigrated essential the renal effect was observed by determination of plasma diodrast and inulin clearance and arterial pressure The levels obtained during anesthesia were compared with observations made under resting condi tions

No consistent change of arterial pressure or renal blood flow or resistance was noted in the essential hyperten ive a finding which is in agreement with the experience of others in normo tensive subjects In the so called neurogenic group all showed an increase of renal resistance blood flow and all but one a decrease of arterial pressure a renal resistance was consistently decreased

These findings point to a participation of neurogenic vasoconstriction in the arterial hypertension of certain patients and suggest a means of differentiating these from patients whose hypertension and vasocon striction are humoral in origin

PAGEL W & WOOLF A L Aseptic necrosis of pancreas due to arterial thrombosis in malignant hyper tension

Brit.M.J 1 442 443 March 6 1948

The evidence that multiple small or gross vascular changes and infarction of the pancreas can lead in themselves to acute pancreatitis is not decisive The authors submit a case report to make clear the distinction between infarction of the pancreas and acute hemorrhagic pancreatitis

A case is reported by aseptic necro is (anemic infarction) chiefly of the central portion of the pancreas due to arterial thrombosis occurring in malignant hypertension Neither the clinical nor the anatomical picture revealed any relationship to acute hemorrhagic pancreatitis and/or pancreatic fat necrosis Observations such as that reported cast doubt upon the vascular factor as the primary cause of acute pancreatitis

ALMER J.H Size of heart after coronary thrombosis

Canad.M A.J 36 387 392 April 1937

Enlargement of the heart was found by radiological methods in 64% of a series of 200 patients who had survived an attack of coronary thrombosis Doubtful enlargement 16% of series was for the purpose of the paper added to the normal group b the high incidence of enlargment in published necropsies favors the view that these doubtf l hearts are in reality enlarged

The factors causing enlargement after coronary thrombosis are discussed By far the most important proved to be hypertension which was held to be the single or predominant cause in more than 80% of all cases with enlargement Disease of the coronary arteries either the actual thrombosis with its resulting infarction or the underlying arteriosclerosis led to increase in the size of the heart in a total of 11 cases (8 6%) Of these 4 (3 1%) had cardiac aneurysm 3 (2 4%) had a bundle branch lesion and the remaining 4 (3 1%) had enlargement apparently due to chronic myocardial ischemia alone

No example of so called acute dilatation of the heart was discovered among 27 patients examined radio logically within a month of the attack Congestive failure not seen in heart of normal size seldom led to an appreciable increase in the degree of enlargement

About one third of the patient. (36%) failed to show or to develop enlargement though watched over per iods averaging more than 3 years following the first attack of coronary thrombosis and this number included several with recurrent attacks
Tables

PALMER R.S Medical evaluation of surgical treatment (dorsolumbar sympathectomy)

J.A. A 134 9 14 May 3 1947

The author discusses the effects of dorsolumbar sympathectomy as observed in a series of operated cases from the point of view of the mechanism involved in its effects selection of patients and criteria for evaluating results One important mechanism is found to be orthostatic hypotension combined with pooling of blood in dependent parts and presumed decrease in venous return Compensatory vasomotor effects include orthostatic tachycardia dyspnea faintness coldness of hands these may be minimized by use of elastic band ages abdominal binders etc

Evaluation of favorable results showed that these tend to become progressively less the longer the period of observation It was nearly 70% early in the period declining to 25% when followed 3 to 5 years Patients with most pronounced vasospastic elements appeared to have benefited most Sympathectomy is regarded here as the therapy of choice in malignant hypertension and in the case of patients with early or moderate vasospastic hypertension without clinical evidence of advanced irreversible diffuse arteriolar disease

Internal observations should be made over a period of time and the degree of hypertension should be care fully graded in order to estimate the prognosis Observations should also include evaluation of attendant or ganic changes and of social and economic stat is and personality of patients
Tables

PALMER R.S Factor of mental stress in essential hypertension
New England J.Med 216 689 693 April 22 1937
The author discusses the peripheral circulation and its nervous mechanism further knowledge of which will, in his opinion lead to a more fundamental understanding of essential hypertension
The characteristics of the blood pressure responses at all stages of essential hypertension are first marked spontaneous variability and secondly marked pressor response to mental stress This emergency response eventually becomes habitual
The author reports his results in the use of the cold pressor test and then describes the findings from a clinical follow up and approximately 100 blood pressure observations of varying kinds The evidence given by these stud es suggests that essential hypertension depends upon constitutional susceptibility possibly an unduly sensitive sympathetic nervous system and nervous strain
The emergency response of the blood pressure may acquire the nature of a conditioned reflex this response may be modified by rest conscious relaxation psychotherapy and sedatives together with the final measure of sympathectomy

PALMER R.S Significance of essential hypertension in young male adults
J.A.M.A 94 694 697 March 8 1930
3 593 records of routine physical examination done in the Department of Hygiene Harvard University are reported
1 The systolic pressures were all more than 10% above the level expected with height weight and age taken into consideration
2 Some correlation was found between nervous and neurotic type and high systolic pressure but no correlation between infectious diseases or constipation and hypertension The influence of body weight was also considered
3 150 persons (66 controlled and 49 hypertensive) were followed after an interval of 10 years
4 Conclusions drawn from follow up studies indicated that hypertension found at 20 years is more likely to be found persistent after 10 years than it is to develop during this interval Those showing hypertension during original examination were more likely to give history of vasomotor symptoms in this interval than the normal control group
Tables

PALMER R.S NYSSENS A F & WHITE J C Severe hypertension with papilledema simulating brain tumor differential diagnosis and treatment
N.England J.M 239 322 327 No 9 Aug 26 1948
1 Similarity in symptoms physical signs and spinal fluid findings between severe hypertension with papilledema and expanding intracranial lesions are pointed out
2 Comparisons are made of observations in 30 patients with severe hypertens on and papilledema in 25 patients with expanding intracranial lesions and in 15 patients with severe hypertension without pap lledema
3 Differential diagnosis between severe hypertension with papilledema and and expand ng intracranial lesion with coincident hypertension are discussed and illustrated by report of 3 cases Most important d fferential characteristic is slow steady progression of neurologic localizing signs in br n tumor
4 Extensive sympathectomy has relieved symptoms reduced papilledem and stayed rapid fatal outcome characteristic of malignant hypertensive patients
Tables

PALMER R.S & THORP E G Clinical considerations in regard to etiology character st s and pr gnosis of essential hypertension at different ages rev ew of 224 cas s
New England J.Med 213 1019 1022 May 21 1936
The authors come to the following conclusions
Essential hypertension often exhibits an early variable stage r sponding read ly to simple med al measures difficult to distinguish from vasomotor instability and simple emot onal or functional d sord r The primary factor in the etiology of essential hypertension s constitution l suscept bil ty Import nt pr ipitat ng or aggravating factors are nervous or emotional strain and in females abnormaliti s of atamen a toxem a of pregnancy the menopause and poss bly pyel tis
Beyond 45 years of age the disease appears to be more severe among male but under 45 ye rs of ge the severest form of essential hypertension especially the malignant phase of the d sease in the authors x perience is more common in females

PARDEE I Basophilic hyperplasia of pitu t ry n es ent l hyp rten i n
Am.J.M.Sc 190 1 8 July 1935
The cl nical syndrome of pitu tary basophil sm is prot an b ng reported w th basophil adenom adrenal adenoma and other unverif ed cases The author present two illustrat v cas of this syndrome
(1) A case reported w th a hyp rtensive pl thoric syndrome haracter tic of p tu tary basophil m wh ch was found to have a basophil hyperplasia of th hypophys cal syndr m
(2) A case with a less marked s mulat on of the cla sical syndrome of the b soph l cells of th anter or pituita y may induce a
Additional evidence is off red th t hyp rplas a of the ba ophili m as w ll
hype tens on and a typical syndrome of p tu t ry ba ophil ... adr nal d ncephal complex as a b sic
The author recommends further inve t g t on of th p tu t ry
cause for hypertens ve st te

PARIN V V Role of pulmonary vessels in reflex control of blood circulation
Am.J.M Sc 214 167 175 August 1947

A report of research on the problem of the pressor-receptor role of the vessels of the lesser blood circulation 103 experiments were conducted on cats weighing 2 to 3 kg Details of the method are presented

In all the experiments in which the operation was accomplished without complications and the animal was in good condition increase in pressure in pulmonary vessels which had been separated from the general blood circulation always induced a fall of blood pressure in the arteries of the greater circulation and also in most instances the pulse rate was diminished The fall of arterial pressure of the greater circulation showed a definite ratio with the increase of pressure in the pulmonary vessels

Further observations are made with regard to (A) Analysis of the vasomotor component (B) Changes occurring in the veins (C) The spleen in connection with pulmonary and carotid reflexes (D) The inter relation of this reflex with those from the carotid sinuses
Charts

PARKIN G G Blood pressure in insane
J Ment.Sc 73 240 246 April 1927

The report of an examination of blood pressure in the insane The sample was unselected The individuals were observed in ordinary hospital routine 229 patients were classified according to form of mental disease 58 nurses comprised the control group

The observations indicated that in all forms of mental disease recent emotional reaction was the main cause of increases of systolic pressure In the observations on nurses taken for purposes of comparison the tendency for emotional reaction at time of observation to cause a rise in systolic pressure was shown in some instances
Tables

J PARKINSON J & HOYLE C Thyrotoxic hypertension
Lancet 2 913 917 Oct 27 1934

The authors examined the common occurrence of thyroid toxemia in patients with essential hypertension 100 patients were observed in the hospital or private practice over a four year period all with established hypertension which in most was observed for many months

Thyrotoxic hypertension is applicable to the group of patients with hypertension in whom there are ruling features of thyrotoxicosis especially tachycardia with a chronic goiter which has often been overlooked They are usually women 45 to 65 years old Special consideration in treatment is that thyroid extract is contraindicated The frequency of the combination should revive the suspicion that chronic thyrotoxicosis is one of the causes of hypertension

PATCH F S THEA L.J & CODNERE J T Hypertension in girl of 12 associated with unilateral chronic atrophic pyelonephritis treated by nephrectomy
Canad.M A.J 43 419 424 Nov 1940

A case study of a girl of 12 years with hypertension found to have unilateral atrophic pyelonephritis relieved by nephrectomy

The authors summarize that hypertension cases improved by nephrectomy and conclude that hypertension may result from unilateral nephropathy and that the removal of the diseased kidney will often be followed by lowering of blood pressure This is not supported by Goldblatt

The authors suggest the indication for radical operation should be based on urologic grounds rather than on those of hypertension

PATEK A & WEISS S Tonus of autonomic nervous system in arterial hypertension
New England J.Med 205 330 334 Aug 13 1931

The psychic state and the tonus of the autonomic nervous system of 42 patients with essential hypertension were compared with that of 37 control patients (similar age distribution) with a normal cardiovascular system

I The following symptoms and signs in combination distinctively were more frequently present in patients with essential hypertension than in control subjects (1) Overexcitability impulsiveness tendency to worry (2) Negative hippus (3) Absence of sinus arrhythmia (4) Negative or reverse oculocardiac reflex (5) Persistent brittle 3rd tone throughout six sphygmomanometer cuffings (6) White dermographic reaction both to light and heavy pressure (7) Tendency to telangiectasis

II As judged from the tests performed the minute vessels of the skin in arterial hypertension are hyperirritable and have a tendency to react with pressor rather than with depressor responses

III A striking difference in the tonus of the autonomic nervous system in arterial hypertension as compared with that of controls does not exist On the whole however the influence of the parasympathetic nervous system is less and of the sympathetic nervous system more pronounced in patients with arterial hypertension than in control subjects with a normal cardiovascular system

PATERSON J C & HOLMES R.B Hypertension and coronary thrombosis
Am.Heart J 36 470 No 3 Sept 1948

The evidence is reviewed that the common precipitating lesion of a coronary thrombus is the liberation of thromboplastic substances from a disruptive hemorrhagic lesion in an atherosclerotic plaque of a coronary artery Intimal hemorrhages are intrinsic lesions and are due to the rupture of newly formed capillaries that arise from the main arterial lumen

The possible causes of rupture of capillaries of this type are discussed and it is postulated that if high blood pressure is a factor intimal hemorrhages should be more frequent in hypertensives than in non hypertensive individuals Morphologic evidence is submitted to show that this is true

PATTON H.S., PAGE E.W. & OGDEN E. Results of nephrectomy on experimental renal hypertension
S.g.Gynec & Obst 76 493 497 April 1943
The reported c inical cases of hypertension and unilateral renal disease in which a nephrectomy was done have been reviewed In over half of these patients the blood pressure was not lowered or continued to rise following surgery
This problem was stud ed on rats in order to determine the factors which influence the success or failure of nephrectomy in curing hypertension Permanent high blood pressure was produced by obstructing the blood supply to one kidney and the kidney was then removal after varying intervals of time Like the results in man half of the rats had no lowering of the blood pressure and only 20 to 30% of these animals were cured of hypertension In the animals with residual hypertension albuminuria persisted and a histological study of the remaining kidney revealed numerous vascular changes similar to those observed in human hypertension and apparently accounting for the continued maintenance of the high blood pressure If the affected kidney had become completely devoid of a blood supply its removal was a useless procedure The greatest success following nephrectomy was in those animals with hypertension of short duration and within the limits of the experiments the severity of the hypertension was not of importance in determining the end results
Tables and Charts

PAUL, R Seasonal course of main circulatory factors pulse frequency blood pressure and vital capacity
Arch.f.Kreislaufforsch 9 164 187 Oct.1941
A st y of a seasonal course of pulse frequency and blood pressure of 900 healthy men ranging in age from 17 to 30 years The pulse frequency shows definite seasonal changes reaching its maximum in the winter and the minimum in the summer
No definite seasonal blood pressure changes could be found
Graphs Tables

PAULLIN J.E Ultimate results of essential hypertension
J.Am.M.Ass Chicago lxxxvii 9 5 928 1926
A review of 75 cases of essential hypertension The number of cases was about equally divided between the two sexes
The mortality rate for the group of men was 48 7% and for the women 0 7%
Myocardial failure occurs earlier than cerebral hemorrhage among the men Death from cerebral hemorrhage in a majority of cases was preceded by a previous apoplectic seizure The greater number of deaths occur because of heart and blood vessel weakness
Renal involvement in the late stages of hypertension is usually very slight only one death occurring because of renal failure
Tables

PAULLIN J.E BOWCOCK H.M & WOOD R.H Complications in hypertension
Am.Heart J 2 613 617 Aug 1927
A general survey is presented of the complications arising in 500 cases of hypertension occurring in the private practice of the author during the past 8 years The data given represent the frequency of the complications as they are ordinarily observed rather than the complications arising in a selected group followed over a definite period of time No attempt was made to separate the complications arising in (1) essential hypertension (2) hypertension with arteriosclerosis (3) hypertension associated with nephritis For purposes of description the complications are classified as those producing recognizable changes referable to the heart arteries central nervous system eyes lungs kidneys miscellaneous organs The outstanding organs bearing the greatest burden of advancing attack is the heart which undergoes a cycle of changes Cardiac complications caused 137 (27 4%) of patients to seek medical advice Second in importance are complications referable to the central nervous system These caused 121 or 20 2% to seek medical relief Next in importance are changes in vascular system arteriosclerosis dilatation of aorta and aneurysm The above are but links in a chain upon which the development of other complications greatly depends Severe renal disease was present in only a small percentage though here probably primary condition and the hypertension a secondary development
Tables

PEARMAN R O THOMPSON G.J & ALLEN E V Urographic evid nce of renal lesions in series of patients suffering from essential hypert nsion
Proc.Staff Meet Mayo Clin 15 467 471 July 24 1940
Urographic investigation (intravenous urography) of 500 patients with essential hypertension was carried out in connection with the belief that essential hypertension is renal in origin
1 Patients in approximately 2/5 of the cases of hypertension studied urographically had lesions of the kidneys
2 The data emphasize that the incidence of surgic l diseases of the kidney in hypertension is less than the incidence of some other diseases in hypertension
3 Hypertension occurs in association with many other diseases and r cause and eff ct relationship can be generally postulated
Tables

PEERY T.M & LA IGSA 1 S.1 Incidence of fatal cardi vascul r dise se in Charleston S.C
Arch.Int.Med 64 971 987 Nov 1939
In a series of 2 0?? consecutive a topsies perf rmed in Charleston S.C all cases in which death was from cardiovascular disease have been studied Hypertensive cardi vascular dis se was the ... in more than half the cases The incidence of hypertension was partic ... in the Negro ...
Coronary thrombosis either with or witho t hypertension was ... the white group it was common
Tables

PEET M.M Hypertension and its surgical treatment by bilateral supradiaphragmatic splanchnicectomy
Am.J.Surg 75 48 68 Jan 1948

The symptomatology of hypertension is discussed at length and its possible bearing on prognosis given The etiology of hypertension is considered especially in reference to its surgical treatment

A bilateral supradiaphragmatic splanchnicectomy is recommended as the procedure of choice in patients showing a progressive type of hypertension or in those who have already reached a high level

Approximately 2 000 patients have been operated upon by this one procedure at the University Hospital Ann Arbor Mich to make definite statements possible

PEET M M & BASSETT R C Surgical treatment of hypertension present concepts
Pennsylvania M J 52 1350 1353 No 12 Sept 1949

The authors preface their remarks by suggesting that surgical attack upon the constitutional stake of arterial hypertension should in no instance be considered a curative measure however in their series of ove 2 100 cases a significant percentage of the resu ts is gratifying The paper is divided into the following sections I) History and rationale II) Criteria for sugical treatment III) Surgical technique IV) Operative mortality V) Postoperative morbidity VI) Factors influencing selection of cases under this a discussion of malignant hypertension coronary sclerosis and cardiac hypertrophy cerebrovascular disease hypertensive nephropathy pregnancy and pre pregnant hypertension

Concerning the selection of cases for surgery the authors suggest that no rigid rules exist but that each case must be analyzed on its own merits with a background of logical criteria in mind

PEET M.M & ISBERG E M Some aspects of hypertensive disease of pregnancy treated by splanchnicectomy
Am J.M.Sc 217 530 538 No 5 May 1949

28 hypertensive females were treated by splanchnicectomy and subsequently experienced 34 pregnancies Of 18 cases who began pregnancy with normal blood pressures 17 gave birth to 18 infants and 15 were still maintaining normal blood pressure levels at a recent examination averaging 2 7 years since delivery and 6.3 years since th operation On the other hand of 10 cases who started pregnancies with blood pressure levels above 150/90 only 2 delivered living infants at term

Not one of 18 cases responding to splanchnicectomy by maintaining normal blood pressure levels after operation and who subsequently became pregnant developed a toxemia of pregnancy

When female hypertensives were divided into two groups depending upon whether or not their hypertension had its origin during a pregnancy little variance was noted in their disease pictures but a significant difference in their over all response to splanchnicectomy Both groups responded well to the operation but the end results were definitely better for the females whose hypertensive state began in a pregnancy

The authors suggest that the young hypertensive female who wishes to have children should first have the essential hypertension treated by splanchnicectomy If she maintains normal blood pressure levels for one year after operation she may with reasonable safety become pregnant and with the assurance that her chances are excellent for giving birth to a normal infant

PEET M M & ISBERG E.M Problem of malignant hypertension and its treatment by splanchnic resection
Ann.Int.Med 28 755-767 April 1948

This is a study of 143 patients with malignant hypertension followed for 5 to 1? years since surgical treatment was performed Ages 14 to 57 63% were 40 years and over The blood pressure distribution was from 310 mm mercury systolic and 190 mm diastolic down to 190/116 Headache was the most common complaint present in 90% of the cases Visual disturbances were present in 62% dyspnea in 45% Electrocardiograms were abnormal in 110 definite cardiac enlargement in 103 confirmed organic heart disease in 8 % of the series Only 14% had hearts of normal size Normal kidney function was noted in only 16% of the series

The operative procedure consisted of bilateral resection of the greater lesser and least splanchnic nerves and excision of the 8th 9th 10th 11th and 12th thoracic sympathetic ganglia

31 patients of 143 with malignant hypertension survived 5 years after the operation with a survival rate of 21 6%

Despite several reports in the literature listing malignant hypertension as a contraindication to surgical treatment operative mortality is high it is the authors opinion that malignant hypertension constitutes an indication for splanchnic resection provided that deterioration has not yet advanced to the constitutional extent where surgical treatment has been found to be unavailing
Tables

PEET M.M ISBERG E.M & BASSETT R C Toxemia superimposed upon prepregnant hypertension treated by splanchnicectomy
Surg Gynec & Obst 86 673 679 June 1948

Splanhcnicectomy has been performed in 5 cases of toxemia superimposed on prepregnant hypertension In 2 cases the results have been excellent following operation In both the toxemia disappeared normal blood pressure levels were achieved living infants were obtained and normal blood pressures have persisted since delivery In the remaining 3 patients the operation exerted no influence on the toxemia but ine of the patients the blood pressure levels following delivery have been significantly decreased as compared to the prepregnant levels
Charts

PEET M.M WOODS W W & BRADEN S Surgical treatment of hypertension results in 350 consecutive cases treated by bilateral supradiaphragmatic splanchnicectomy and lower dorsal sympathetic ganglionectomy
J.A.M A 115 1875 1885 Nov 30 1940

350 consecutive cases o hypertension with operation by bilateral supradiaphragmatic splanchnicectomy and lower dorsal sympathetic ganglionectomy have been studied over a period of nearly 7 years The authors conclude that these operations are of great value in the treatment of hypertension Of the patients stud ed 88 6%

had postoperative relief of major symptoms especially headaches 81.3% had improvement or complete relief of incapacitation and 51 4% had a significant reduction in blood *pressure* Improvements were not d in phthalmologic cardiac and renal status
Tables

PENDERGRASS E P GRIFFITH J Q JR PADIS & BARDEN R P Irradiation of pituitary gland in patients with arterial hypertension indications
Am.J.M.Sc 213 192 197 Feb 1947
Pi tary irradiation as a treatment for high blood pressure was given to 142 patients without untoward effect although 3 persons with papilledema showed severe acute but transient reactions indicating increased intracranial pressure Only 83 patients were adequately followed for a period varying from 3 to 56 months averagi g 16 months About half of these persons showed improvement in blood pressure and clinical dondition All of these individuals were selected on the basis of a positive test for antidiuretic hormone in the serum From a consideration of other studies and of the results of varying roentgen dosage it is concluded that the chance of benefit from radiation therapy to the pituitary in hypertension should be at least 75% if cases are selected according to criteria outlined by the authors
Tables and 3 case reports

PENICK R M JR An evaluation of the treatment of essential hypertension by sympathectomy
Ann.Surg 129 872 880 No 6 June 1949
The author points to the need for a more exact and uniform classification for hypertension in order to mak a better selection of patients as well as to allow a better interpretation of the results The cases were observed after one year because they represented the optimum and could be used as criteria for measuring remote end results
The present study confirms the ability of sympathectomy to relieve hypertensive symptoms in more than 80% of well selected patients The experience obtained is not sufficient to provide a definite answer as to whether life is prolonged The author considers the operation justifiable for relief of symptoms alone although it is his impression that many of the patients having sympathectomy live longer than they would have if the operation had not been performed
Discussion by Craig Lahey Fallon Grimson
Tables

PEOPLES S.A & GUTTMANN E High blood pressure produced with benzedrine psychological accompaniments
Lancet 1 1107 1109 May 16 19 6
The report of an experiment designed to investigate mental changes taking place in normal or mentally abnormal persons when their bloos pressure is artificially altered The sample cons sted of 25 persons all of whom were given two or more different doses of benzedrine Observations were made with regard to the effect of benzedrine on the vegetative nervous system blood pressure alterations effect of the drug on the individual s ability to sleep and the effect of the drug on the mind
The authors conclude with comments concerning the therapeutic value of benzedrine
Charts

PERERA G A Hypertensive vascular disease
N York Med 5 16 20 No 1 Jan 5 1949
Hypertensive vascular disease is defined as a d sorder of man characteri ed by an abnormal elevation of dia tolic blood pressure (hypertension) but only when oth r known causes are excluded Hypertension should be susp cted if diastolic blood pressure occasionally rises above 90 m n of mercury and becomes increasingly probable the more often this value is exceeded The following tems are treat d in this report Etiology un complicated hypertensive vascular disease cardiac hypertrophy and congestive failure arteriosclerosis and med cal and surgical treatment

PERERA G.A Natural history of high blood pressure
Am.J Med 4 416-422 March 1948
Measurement of blood p ess ure is at be t rough and variable A sharp d ff rentiat on between normoten sion and hypertension is impossible Altho gh h gh blood pressu e is but a manifestation of hypertensive vas c ilar disease the clinical diagno s r sts n the repeated finding of hypertension when other causes of diastolic blood pressur elevation are exclu led It should be emphasized that syst lic hypertension alone must be seper ated from those disorders in wh ch the d astolic blood pres ure s aff cted and that a normal blood pressure may be recorded in the course of hypertensive vascular disease under certain physiolog c and pathologic con d t on
The author consid rs the nc dence of hypertensive vascular di e se and po nts out the d fficulties in inter preting the available stati tics He c vers the pos ibl etiology of hypertension b efly
Data are presented concerning 2 147 patients w th establ sh d hypertensive vascular d sease and gener l conclusions are made regarding the natural h sto y of hyp rt n ve va cular d s ase with detailed reference to age at onset sex duration of l f symptoms head hes blood pressure r tinopathy hypert nsive encephalo pathy arteriolar nephro cleros s and hypert n ive heart di ease arter osclerotl vascular compl cations malignant hypert nsion prognosi and cau e of d ath
The symptoms signs compl cations and outlook are d pendent upon assoc ated auton m c instability arter oscl rosis hypertens ve he rt dise e and arteriosel rotic changes These alterations are frequently but not invar bly present d ffer n their intens ty and po nts of max mal attack and are not related to the level of the blood pressure or to the duration of the dis e

PERERA G A Sodium restriction in hypertension
Connecitcut M J 11 963 965 Dec 1947

It appears that sodium chloride is related in some way to the mechanism of hypertensive vascular disease Its restriction as a therapeutic measure is still on trial and an experimental basis the harm of such limitation and dietary invalidism often exceeding the benefit It remains to be seen what is the effect of rigid salt restriction on the natural history of the disease

PERERA G A Relationship of adrenal cortex to hypertension effect of hypoadrenalism on patient with hypertensive vascular disease
J A.M A 129 537 538 Oct 20 1945

A patient with documented hypertension who subsequently developed hypoadrenalism showed a persistent elevation of blood pressure while under treatment with desoxycorticosterone

Replacement therapy with salt alone even though the patient was maintained in water and electrolyte balance re ulted in a drop in blood pressure to normal limits The author suggests that the adrenal cortex may be important for the development or maintenance of essential hypertension in man
Graph

PERERA G A & ATCHLEY D W Hypertensive vascular disease
Nelson s Loose Leaf Medicine 1949

In this paper the authors discuss the following

A Normal and abnormal blood pressure
B Physiology of blood pressure regulation
C Physiology of hypertensive va cular disease
D Physiologic and experimental mechanism productive of arterial hypertension and their bearing on the pathogenesis of hypertensive vascular disease in men
E General considerations in regard to incidence of hypertensive va cular disease
F General clinical survey including different diagnosis
G Uncomplicated hypertensive vascular disease and its management
H Hypertensive vascular disease with cardiac hypertrophy and congestive failure
I Vascular complications due to arteriosclerosis
J Arteriosclero is in hypertensive vascular disea e nephrosclerosis and the accelerated forms of the disease
K Special therapies

PERERA G A & BLOOD D W Relationship of sodium chloride (restriction) to hypertension
J Clin Investigation 26 1109 1118 Nov 1947

Observations have been made on patients with uncomplicated hypertensive vascular disease under controlled conditions of diet and activity Despite an otherwise constant regimen rigid sodium chloride restriction resulted in a light decrease in resting blood pressure in 6 subjects whereas large amounts of dietary sodium chloride produced a slight rise in resting blood pressure in 5 of 6 subjects The pressor action of de oxycorticosterone acetate was ob erved in 7 subjects but only when sodium chloride was included in the diet the rigid restriction of sodium chloride obliterated this pressor response

It is suggested that vasoconstrictive factors in hypertensive patients are independent of these alterations in peripheral resistance influenced by sodium chloride or desoxycorticosterone acetate

The relationship of sodium chloride and desoxycorticosterone acetate to hypertensive vascular disease is considered with the view that some product of the adrenal cortex may play an important role in the mechanism of the disorder

PESSIN J Pressure changes during insulin shock treatment
J Nerv & Ment Dis 90 180 187 Aug 1939

A report of observations on blood pres ure changes in 5 graphs of patient undergoing insulin shock treatment Results

1 Insulin in doses large enough to produce shock caused a rise in mean systolic blood pressure occurring 1 to 2 hours after injection of insulin and varying from 8 to 37 mm mercury
2 Variations in mean diastolic pressure are less in degree and slower in onset
3 With a single exception the mean pulse pressure is from 5 to 17 points higher at the end of treatment
4 Maximum variations in individual consecutive blood pressure readings systolic rise of 60 and fall of 76 mm mercury Diastolic rise of 40 and fall of 24 mm mercury

PETERSEN W F Meteorological reflections in blood pressure rhythm
Proc Soc Exper Biol & Med 30 1145 1146 May 1933

When daily blood pressure readings of normal persons or patients ill from a variety of diseases are studied distinct periodic fluctuations can readily be determined These persons reveal a distinct association with the meteorological status of the time In this study each barometric decline is associated with a systolic pressure increase

PHILLIPS J R Paroxysmal hypertension due to paraganglioma
Am J Surg 73 111 115 Jan 1947

A review of the literature on tumors of the adrenal or sympathetic system causing a syndrome of paroxysmal hypertension Incidence pathology diagnosis prognosis and therapy are considered Most prominent feature of the syndrome is the sudden dramatic episodes of paroxysmal hypertension believed to be due to out pouring of large amounts of adrenalin into the systemic circulation by these tumors Atta ks vary widely in duration from a few minutes to many days

Intermittent attacks of hypertensi n developing without apparent cause accompanied by vertigo nausea and vomiting headaches palpitation dyspnea and pain of anginal type are characteristic of this syndrome

A case of the chromaffin cell type associated with paroxysmal episodes of hypertension is reported The case was further complicated by marked sickle cell type of anemia which required repeated transfusions to combat it

PHILLIPS J General discussion of prognosis and treatment of arterial hypertension
Ohio M J Columbus xxi 637 640 1925

The discussion is divided into the following 4 sections (1) Incipient arterial hypertension (2) Chronic arterial hypertension without renal diseases so called essential hypertension (3) Chronic arterial hyper tension with renal changes decrescent hypertension (4) Arterial hypertension of pregnancy

The author discusses the clinical manifestations of the above and deals with various aspects of treatment (1) Treatment of early cases of advanced cases (2) Recreation and exercise (3) Hydrotherapy (4) Diet (5) Drug therapy

PICKERING G W Transient cerebral paralysis in hypertension and in cerebral embolism with special reference to pathogenesis of chronic hypertensive encephalopathy
J A M A 137 423 430 May 29 1948

Hypertensive encephalopathy comprises at least two distinct clinical and pathological conditions In acute hypertension or chronic hypertension with recent exacerbation attacks of headache vomiting convulsions and coma are generally due to acute edema of the brain this edema is less likely to be caused by excessive con striction of the decrebral arteries In chronic hypertension attacks of localized sensory or motor paralysis of brief duration are probably not due to cerebral arterial spasm but to sudden organic arterial occlusion for example by the thrombus The speed and completeness of recovery from paralysis will depend on the size of the final infarct and on its position

PICKERING G W Relation of benign and malignant hypertension
J M t Sinai Hosp 8 916 921 Jan Feb 1942

Although changes in eye grounds occur in both benign and malignant forms of hypertension the changes characterizing hypertensive neuro retinopathy are invariably met in the malignant form and are absent in the benign Not merely the presence of retinal exudates distinguishes malignant from benign hypertension it is their fluffy character and the presence of bilateral papilledema Diastolic pressure is usually higher in malignant than in benign hypertension thus it is unusual to find the diastolic pressure under 130 mm Hg in malignant or above it in benign hypertension The hypertension is thus generally more severe in the malignant than in the benign form and it is this difference in severity which accounts for the chief difference between them One can say at the present time that it is unnecessary to suppose that the hypertension differs in kind in the benign and malignant forms The causal lesion is not always the same in malignant hypertension a given kind of lesion may be accompanied by a hypertension which follow either the benign or malignant course This is explained by the view that malignant and benign courses of hypertension are merely expressive of the severity of the hypertensive process irrespective of the lesion which ultimately determines it

PICKERING G W Mechanism of arterial hypertension in acute nephritis
Clin Sc 2 363 372 Dec 1936

The paper records observations made on 6 patients with acute nephritis in 5 the disease followed acute throat infection in 1 it was associated with glandular fever Findings

1 Raised arterial pressure in acute nephritis probably results from vasoconstriction because (a) in 3 cases the circulation time as estimated by the dechol n method was essentially the same when the blood pressure was high and when it was norm l
(b) The blood viscosity was slightly decreased in 3 and sl ghtly increased in 1 pat ent d r ng the phase of hypertension

2 In 4 out of 6 ca es oc acute nephritis estimations of blood flow showed that d ring the phase of hyper tension no abnormal vasoconstriction was pre ent in th hand from wh h vasomot nervous tone had b en completely removed

3 Hypertension seems to be due to vasoconstriction whi h is of e sent ally d ffere t or gin in acute and chronic nephritis in the former it s prot ably of nervous origin in most case n the latter it s probably not so
Charts and Tables

PICKERING G W Eff ct of ntrodu ng blood f om patients with essenti l hypert n ion into other human subje ts
Clin Sc 2 185 197 May 1936

Ob ervat on vere made on tran fus on of blood obt n d f om both normal nd hypert nsive donors The change in arterial blood pressure pr duced in nem subje ts by transfu on f blood from patients with essenti l hype tens o are very small a d are no gre t r th n those p od d by tr n fusion of n eq al f lume of n rmal blood This result is opposed to th de that the rai ed lood pressure in es ntial hypertension is due to excess of presso or def c t n a depre sor sub tanc in th circulating blood n may be due to the intervent on of a chem cal agent which s not circulat ng l ut

These re lts do not xcl de the po s bil ty that hyp rt ns f x d l y the t s ues
Ch rts

PICKERING G W Peripheral resistance in persistent arterial hypertension
Clin.Sc 2 209 235 May 1936

A study of the circulation of the upper limb of patients whose systolic pressure was over 160 and diastolic over 100 when patients were at rest Most had cardiac enlargement none had congestive cardiac failure

Findings

1 Under similar environmental conditions the rate of blood flow through the forearm is the same in subjects with essential hypertension malignant hypertension and chronic nephritis with hypertension as in subjects with normal blood pressure Resistance offered by vessels of the forearm is increased owing to vasoconstriction blood viscosity is normal or less than normal

2 After periods of circulatory arrest lasting up to 10 minutes the rate of bloow flow through the forearm increases to the same extent in subjects with persistent hypertension as in normal subjects

3 After completely inhibiting vasoconstrictor nerve impulses to the cutaneous vessels of the hands by warming the body it was found that

(a) the rate of blood flow declines in subjects with normal blood pressure as age advances a decline attributed to sclerotic changes in the vessels of the hand

(b) in the various types of persistent hypertension the rate of blood flow is never greater but is sometimes less than its value in normal subjects of similar age

It is concluded therefore that in chronic nephritis and essential hypertension (and probably in the other types of persistent hypertension studied) the abnormal agent narrowing the vessels is not nervous Its probable nature in the several diseases is discussed

Tables and Charts

PICKERING G W Cerebrospinal fluid pressure in arterial hypertension
Clin Sc 1 397 413 Dec 1934

The work was undertaken to determine the cerebrospinal fluid pressure in a representative series of patients with high blood pressure and to find out the significance and causes of the differences observed

1 The general clinical feature presented by hypertensive patients with cerebrospinal fluid pressures of 250 mm water and over contrast strongly with those presented by patients having lower pressure

2 Every patient with a cerebrospinal fluid pressure over 250 mm water developed albuminuric retinitis Every patient but one with a lower cerebrospinal fluid pressure had either no retinal lesion or the lesions characterizing arteriosclerotic retinitis The essential difference between these two forms of retinitis may be the addition in the albuminuric type of neuroretinal edema resulting from increased intracranial pressure

3 In individual patients with high blood pressure the cerebrospinal fluid pressure has been found unaltered during headaches and during acute attacks of coma and convulsions unassociated with uremia

4 There is a relation between high diastolic blood pressure and high cerebrospinal fluid pressure it is suggested the former is one of the factors determining the latter

Tables

PICKERING G W & KISSIN M Effects of adrenalin and of cold in human hypertension
Clin.S 2 201 207 May 1936

The paper reports observations undertaken as repeat studies of the work of Deiche Hulse and Kure concerning blood pressure response to adrenaline and those of Hines and Brown concerning blood pressure response to cold The conclusions are uniformly negative

1 There is no evidence that patients with nephritic hypertension are abnormally sensitive to adrenaline

2 There is evidence refuting the view that essential and nephritic hypertension are due to hyperadrenalinaemia

3 There is no confirmation of the theory that hyperreaction to the cold pressor test is peculiar to potential or developed cases of high blood pressure

Tables

PICKERING G W KISSIN M & ROTHSCHILD P Relationship of carotid sinus mechanism to persistent high blood pressure in man
Clin Sc 2 193 200 May 1936

The function of the carotid sinus mechanism has been tested by Hering s method in four groups of human subjects (a) young adults with normal blood pressure (b) elderly persons with normal blood pressure (c) patients with chronic nephritis and hypertension (d) patients with essential hypertension Results

1 The differences in the response to carotid sinus compression shown by the various age groups seem to be entirely accounted for by differences in the initial levels of blood pressure and by differences in the degree of sclerosis of the large arteries

2 Digital obliteration of one carotid artery below the sinus produced in all subjects with normal and high blood pressure rises of blood pressure and pulse rate that were greater than those produced by control pressures on the neck and femoral artery

3 Resting pulse rate was essentially normal in patients with hypertension

It is concluded that the hypertension exhibited by patients suffering from chronic nephritis and by most of those suffering from so called essential hypertension is essentially different in origin to that produced experimentally be denervating the carotid sinus and arch of the aorta

Tables

PICKERING P P STEINMEYER H I & LUCKHARDT A.B Hemodynamic effects of subcutaneous submucosal and subgingival injections of procaine epinephrine hydrochloride solutions
Proc.Soc.Exper.Biol & Med 37 729 731 Jan 1938

Two problems and their ramifications are discussed First the absorption of epinephrine from injections in the oral cavity Secondly the effect of subgingival injections of procaine-epinephrine hydrochloride solutions

Following submucosal injections a rise in blood pressure ranging between 10 and 40 mm Hg was noted

Subgingival injections of the even dilute concentrations of epinephrine often cause marked rises in blood pressure

PIERSOL G.M Factors of prognostic significance in persistent high blood pressure
Med Clin.N.Am Phila v 705 713 1921

A study of 160 cases showing high blood pressure consistently all having been under observation 2 to 10 and more years The chronic vascular hypertension was due to various causes

The following conclusions are among those drawn

1 Chronic renal disease is chiefly responsible for hypertension in men whereas in women hypertension is more often the result of some primary vascular disturbance

2 In cases of persistent hypertension etiology of high blood pressure bears definite relationship to prognosis

3 Chief causes of death in cases of high blood pressure are cardiac failure and cerebral hemorrhage

4 After 40 years the percentage of mortality in cases with hypertension increases with each decade

5 Type of blood pressure per se bears no definite relation to prognosis Most important in determining prognosis is the underlying cause of high blood pressure

PIERSOL G.M Prognosis in vascular hypertension
Tr.Am Climat & Clin.Ass 1920 Framingham,Mass xxxvi 51 60 1923

A study of 134 patients 71 female 63 male consistently exhibiting systolic blood pressure of 170 mm of mercury or over All were under observation 1 to 10 years or more Conclusions

1 Persistent high blood pressure is more common as the result of chronic renal diseases than from other causes

2 Hypertension of renal origin is somewhat more common in males than in females

3 Primary hypertension (including climacteric variety) met with twice as often in females as in males

4 Prognosis in hypertension bears definite relation to etiology

5 25% of the cases of nephritic hypertension will succumb within 3 years after they come under observation

6 The most common cause of death is equally divided between cerebral hemorrhage and cardiac failure

7 Height of blood pressure also furnishes no adequate basis for prognosis

PILCHER J F & SCHWAB E.H Arterioles in malignant hypertension case
South.M.J 28 688 693 Aug 1935

A study of the arteriolar changes throughout the body in a case of the malignant type of essential hypertension is presented There is a detailed autipsy report both gross and microscopic

We find in all tissues examined in this case a thickening of the wall and narrowing of the lumen of the arterioles due to muscular atrophy of the vessel wall This change is constant and fairly uniform in all tissues but the heart In addition we find a severe necrotizing process in the arteriolar walls which is seen in the heart kidneys colon spleen adrenal skeletal muscle and liver

PINES N Arterial hypertension and retinal changes
Brit.J Ophth 11 489 522 Oct 1927

After a discussion of the normal fundus the arteriosclerotic fundus the clin cal value of hypertension diabetes mellitus and prognosis the author draws the following conclusions

1 Sclerosis of the retinal vessels is recognized first of all by the loss of translucency of the va u r wall other symptoms develop later

? The same toxin which is the cause of essential hyperp esis quickly develops arterio sclerotic changes in the retinal vessels even at a young age if this arterial hypertension continues long enough It act on may cease and clinically the general vascular system may recover con pletely but the arter o clerot ᴗ changes in the retinal vessels remain permanently

3 There is some reason to believe that the toxin of essential hyperpiesis is pre renal in or gin b t renal retinitis and arteriosclerotic retinitis are probably caused by different toxins It is probable that there is some intimate connection between the state of the retina and the activity of the k uney (endocri e ?)

Fxtensive charts giving clinical details of author s own patients

PLATT R Severe hypertension in young person study of 50 cases
Quart.J.Med 17 83 93 Jan 1948

Purpose of the study is to show that the conception of mal gnant hyp rtersion as d sease commonly affe t ing young persons is fallacious and to d scuss some causes of hyp rtens on in the young

The paper is based on records of 191 cases of hypertensi n form ng con ecut ve and unselected s ries over th last 13 months 45 were under the age of 40 year and of these only 13 appea d to be cases of e sential hypertension

No case of maligr ant hypertension under 34 y ars of age was ob erved

Young persons w th malignant hypertension were nearly always uffering s condary hypert nsion und r lying cause of which was often pyelon phritis which may be on the backgro nd of cong nital abnormal ty

When cases of secondary hypertension are ex luded the average age for mal gn nt and benign hypertension in the present series were 5 2 and 53 2 years

The author concludes with a discussion of some ca ses of hypertension in the young

Tables and Charts

PLATT R Nephritis in textile workers (rol of hypertensio in mortal ty)
Brit Med.J ‐ 771 77 Nov 15 1947

It is the purpose of th s paper to examine the evidence on wh ch th statement the inh lation of textile dusts is a steady source of death from n phritis and a group of conditions where common factor is hyperpiesia is based The author uses st ti t cal data and com to the conclu ion that l s paper does not prove anything It suggest that the deaths from so called nephritis in textile workers are in all probability due to hypertension and can be as easily expla ned by natural ar ati ns in th genetic constitution of an inbred population as by environmental nfluences

PLATT R Heredity and hypertension
Quart.J.Med 16 111 133 July 1947
Previous studies of the family histories of patients with hypertension have shown a hereditary factor in 76 to 86% of cases Urological studies of hypertension have demonstrated a renal factor in 26 to 30% of the cases
This paper attempts to combine these observations in order to determine whether the cases without a family history of hypertension are those in which hypertension is secondary to some demonstrable urological disorder
Owing to the difficulties in studying human genetics and in relying on patients statements it is impossible to advance a proof but the evidence is compatible with the hypothesis that essential hypertension is a heredit ary disease conveyed a a Mendelian dominant with a rate of expression of more than 90%

POPPEN J L The technic of lumbar sympathectomy
Surg Clin.N America 29 667 671 No 3 June 1949
The indications for lumbar sympathectomy are mainly peripheral and vascular diseases such as thrombo angiitis obliterans (Burger s disease) Raynaud s disease arterial embolism arteriosclerosis levido reticul aris chronic ulcers causalgia hyperphybrosis and traumatic sympathetic reflex dystrophy
Adequate pre operative studies can lead to a decision of sympathectomy especially by temporary inter ruption of the lumbar sympathetic pathways with a well directed procaine block Thus reasonably accurate knowledge can be obtained as to the effect of later lumbar sympathectomy
Directions are given for determination of case of sympathectomy The anesthesia position of the patient and the mode of operation are discussed
Plates

PORTER E Hypertension in women clinical study
Post-Grad.M.J 12 80 91 March 1936
No adequate course has been found to account for hypertension in women The condition is very common and renal inefficiency when it occurred is secondary to hypertension No drug treatment seems to be of any avail
Retinal hemorrhages have not neces arily a grave prognostic significance
Quite severe myocardial damage can be compatible with life for a considerable period of time The ter mination of the disease appears to be due to cardiac or renal failure or to a combination of both

POTTER F.B Acute goiter due to cyanate (potassium thiocyanate) therapy 2 cases with thyroidectomy
J A.M A 124 568 570 Feb 26 1944
Two cases of cyanate goiter which had been removed from 2 patients In both cases there had been a rather sudden and rapid enlargement of the thyroid gland The vacuolation of the colloid immediately adjacent to the epithelium so commonly seen in toxic diffuse goiter is absent Another point of difference between the cyanate goiter and the toxic diffuse goiter is the absence of the lymphoid follicles which are often although not always seen in toxic diffuse goiter

PORTER M F & PORTER M F.JR Paroxysmal hypertension cured by removal of adrenal tumor case
Surg Gynec Obst 50 16 162 No 1A Jan 1930
Prior to this report 7 cases of paroxysmal hypertension have been reported including 5 from Europe and 2 from the U.S In one case the lesion was nasopharyngeal in one case it was mediastinal one case was due to adrenal adenocarcinoma one case in which etiology was not definitely determined one case due to meningo coccus meningitis and one was a paraganglioma
The case reported here was an adrenal adenocarcinoma It is worthy of note that of these 8 tumors causing paroxysmal hypertension 5 possibly 6 were malignant Another noteworthy fact is that two of these tumors were remote from the adrenal glands i e above the diaphragm
It would seem that tumors of the chromaffin organs in any situation may cause paroxysmal hypertension So far as can be larned in only 2 cases were diagnoses made before operation Malignant invasion of glands usually results in hypofunction rather than hyperfunction but the reverse would seem to be the rule in chromaf fin cell tumors
Plates

PRIDDLE W W Management of hypertension
Canad.M A.J 25 5 8 July 1931
The sodium ion appears to be a factor in the increase of and the potassium ion in the decrease of blood pressure The restriction of sodium calcium and magnesium and the increase of potassium intake in patients with hypertension has resulted in uniform clinical improvement and lowering of blood pressure

PRINZMETAL H LEWIS H A & LEO S Etiology of hypertension due to complete renal ischemia
J.Exper Med 72 763 776 Dec 1940
Perfusates of totally ischemic kidneys of cats contain a pressor substance which is not present in the per fusates of normal kidneys ischemic hind limbs or ischemic gravid uteri The pressor material in ischemic renal perfusates originates directly in the kidney as a result of complete ischemia The pressor principle con tained in ischemic renal perfusates is the cause of the hypertension which follows the re establishment of cir culation in complete ischemic kidneys since perfusates of unreleased completely ischemic kidneys contain more pressor material than perfusates of released ischemic kidneys of the same animal
The perfusates of blood free ischemic kidneys contain more renin than those of blood filled ischemic kidneys
The authors describe a method by which the power of various substances to inhibit or enhance the pro duction of renin in the ischemic kidney may be tested
Tables Illustrations

PRINZMETAL, M & OTHERS   Effects on arterial hypertension of heat inactivated tyrosinase preparations
Proc.Soc.Exper.Biol & M ed 50 288 290 June 1942

The experiments reported were carried out to investigate the effectiveness of tyrosinase preparations from mushrooms in lowering the blood pressure of hypertensive animals Use was made of mushroom tyro sinase preparations made by modifications of the purification procedures of Keilin and M ann

Four patients with malignant hypertension or pre malignant hypertension were hospitalized and observed before treatment for 7 to 10 days with blood pressures taken twice or more daily

The observations demonstrate that heat inactivated tyrosinase preparations can produce significant lowering of blood pressure and remission of other symptoms of arterial hypertension in man Such effects as have been observed are as marked as those which have been reported by others following injections of active tyrosinase preparations and therefore show the effects upon the symptoms of arterial hypertension to be unrelated to the enzyme content of the preparations

PRINZMETAL M & WILSON C   Nature of peripheral resistance in arterial hypertension with special reference to vasomotor system
J Clin.Investigat on 15 63 83 Jan 1936

The paper deals with the following questions concerning the nature of peripheral resistance

(A) Is the increased peripheral resistance generalized throughout the systemic circulation or confined to the splanchnic area ?

(B) To what extent are the vessels responsible for the increased peripheral resistance capable of dilatation ?

(C) What part is played by the vasomotor nerves in the maintenance of the increased peripheral resistance i e if arterial hypertonus is present can it be attributed to an increase in sympathetic vasoconstrictor impulses ?

An attempt is made

(1) to answer these questions by studies on the blood flow in the arm under various conditions and

(2) to determine whether the nature and distribution of the increased resistance is the same in the benign malignant and secondary (renal) hypertension

Extensive observations are presented together with illustrative tables and charts

PROBST E W   Employment of hypertensives in industry
Indust.M 18 462 No 11 Nov 1949

Industrial performance and accident records of 89 hypertensives are compared with those of an equal number of non hypertensives in similar work The incidence of accidents in this small group of hypertensives is significantly less than in the healthy group These findings in conjunction with those cited previously indicate hypertensives to be good industrial risks and that many individuals with blood pressures above the usual arbitrary normals can serve industry satisfactorily over long periods

PROGER S.H & AYMAN D   Hyperventilation in arteriolar hypertension
J Clin.Investigation 12 335 343 March 1933

Hyperventilation produces a lowering of the blood pressure in some patients with essential hypertension A significant drop does not regularly occur There may even be a slight rise There appears to be no direct and constant relationship between the height of the blood pressure in patients with essential arteriolar hypertension and the alveolar CO_2 tension

The cardiac output increases during hyperventilation in patients with essential hypert nsion to the extent wh ch might be expected simply from the slight increase in work The vital capacity appears not to be significantly aletered after varying periods of hyperpnea This is true also of the rate of the pulse

Tables

PRUSV ACK J.J & WEISS M.M   Essential hypertension in Negro
Am.J.M Sc 195 510 516 April 1938

A study of the manifestations of essential hypertension in 1 198 Negroes admitted to the Louisville City Hosp tal compared with 989 white hypertensives admitted to the wards dur ng the same period

Comparisons are made of age sex frequency of cardiac cerebral and renal complications of hypertension incidence of angina pectoris auricular f brillat o syph lis and diabetes

Tables and Charts

PUND E.R   Pathology of hypertension
J.M A Georgia 22 407 410 Nov 1933

A general art cle in whi h the author comes to the foll wing conclusions

1 Pre exist ng hyperten on may be determined at necropsy

2 The distinctive lesion are pronounced art ri s lerot c changes and arterioscler and sometimes arteriolonecrosis

3 Visc ral le io s se ondary to the v scular lesion are ob e ved and these explain the clinical course of the d seas

4 In the absence of hyperten ve etiologic factors the clinical d agnosis of essential hypertens on may be conf rmed

RAAB W   Hypert ns on and tachy ardi due to concus ion of the brai
Am.Heart J 37 37-248 No 2 Feb 1949

Arter al hyp rt nsion tachycard a hypertherm tachypnea hyperm tabolism and mental anomalies occurr ng as aftereffects following concus ion of the brain indicate injury to the upper medula oblong ta and the thalam c area These symptoms may be per stent or paroxysmal and m y occur either simultaneously or be d ssociated Two such cases ar reported in detail

Symptoms and signs resemble those which have been described in some cases of brain tumors located near the 3rd ventricle in cases of encephalitis and of poliomyelitis of the upper medulla oblongata and in cases of essential hypertension and hypertension induced by pheochromocytoma

A comparison of the symptomatology of these hypertensive syndromes with the ones due to cerebral in jury suggests that all of these syndromes have certain neurovegetative features in common which may be attrib uted to an excess activity of sympathominetic amines

RAAB W Adrenocortical compounds in blood relation of their quantity to arterial hypertension renal insufficiency and congestive heart failure
Arch.Int.Med 68 713-719 Oct 1941

Human blood contains adrenal hormonal compounds consisting of epinephrine and cortical sterols (adrenal *cortical compounds*)

In patients with essential hypertension the resting level of adrenal compounds is normal markedly ele vated for a few minutes after exercise

Ab abnormally high level of adrenal cortical compounds is found in the blood of a number of patients with renal hypertension with congestive heart failure and associated pulmonary edema and particularly in patients with adrenal insufficiency and associated uremia

No clear relation existed between the level of the adrenal cortical compounds in the blood and the level of the blood pressure

It is concluded that there is a tendency toward a jerky mode of secretion of the adrenal glands in persons with essential hypertension This phenomenon is believed to further the development of arteriosclerosis and resulting ischemia in the vasomotor centers of the brain and kidneys thus contributing to two outstanding mechanisms of common (central and renal) hypertension

Also a damaging influence of adrenal cortical compounds on the cardiac muscles appears possible in view of the tendency of the myocardium to absorb and to deposit both epinephrin and cortical sterols This harmful effect on the heart is particularly obvious in case of severe renal insufficiency with its excessive concentration of adrenalin cortical compounds in the blood

The origin of the latter its significance for certain features of the uremic syndrome requires much more study

Tables Charts

RAAB W Hormonal central and renal origin of essential hypertension cerebral and renal arterio sclerotic ischemia as causal factors
Ann.Int.Med 14 1981 2007 May 1941

Essential hypertension can be caused by three pathogenic factors

1 Vasoconstriction due to hormonal effects upon peripheral vascular tonus This mechanism is usually of only minor importance

2 Vasoconstriction due to increased central vasomotor tonus and irritability

3 Vasoconstriction due to formation of vasopressor substances in the kidneys

Bibliography

RAAB W Pathogenesis of essential hypertension in hyperventilation
Klin Wchnschr 8 1130 June 11 1929

In a very brief article the author states that slow breathing lowers the systolic blood pressure at an average of 28 mm in essential hypertension within 15 minutes In healthy persons slow breathing does not have this blood pressure lowering effect No blood pressure lowering effect is noted in patients suffering from glomerulo nephritis

Charts

RABWIN M.H ROSENBLUM D.H & FREIDIN M Sympathectomy in the treatment of essential hypertension Evaluation of results in 53 cases
Ann West.M & S 4 7 p 326-329 July 1950

The report is based on the authors experience with the Smithwick procedure in 53 cases of hypertension Nearly all cases in the study were severe The results of the operation were

Classification Excellent Criteria Normal blood pressure relief of subjective symptoms reversal of positive objective findings return to normal activities Number of patients 9

Classification Good Criteria Decrease in levels of blood pressure alleviation of subjective symp toms improvement in objective findings increased activities Number of patients 17

Classification Fair Criteria Subjective improvement no significant change in blood pressure or objective findings Number of patients 12

Classification None Criteria No change in blood pressure no subjective or objective changes Number of patients 12

Hospital deaths 3

Tables

RACKLEY L.E Blood pressure and galvanic reflex as indicators of emotional states
J.Applied Psychol 14 497 504 Oct 1930

The purpose of the experiment was to determine the effect of fear producing stimuli and of rapid mental work on blood pressure and the galvanic reflex Ten subjects were used 5 male and 5 female ages 13 to 17 years The author feels the following conclusions are warranted

1 That blood pressure changes and galvanic reading changes indicate the presence of emotional states

2 That fear producing stimuli cause a greater change in blood pressure and galvanic reading than mental work

3 That there is a positive relationship between the blood pressure and the galvanic reading results but this relationship is not great

Tables and Charts

RAMSAY A.M. Role of capillaries in causation of disease with special rference to pathogenesis of acute primary glaucoma
Glasgow M.J 140 171 183 Dec 1943
Among the items discussed in this paper is the relationship between high blood pressure and the presence of glaucoma The author points out that we cannot assume that high blood pressure is in itself the essential ta or in the etiology of glaucoma The two conditions frequently co-exist but the relationship is accidental and is not one of cause and-effect Arterial pressure must exercise a certain influence on the tension of the eyeba l but the all important factor in the regulation of the intra ocular pressure is the pressure of the blood i the capillaries The clue to the pathogenesis of glaucoma is likely to be found by a study of the intra ocular capillary circulation

An operation will be required whenever ocular hypertension persists though it cannot be said that an operation is a cure for glaucoma Immediate relief may be obtained and hypertension held in check - but nevertheless glaucomatous degeneration may progress General treatment of the patient is always as neces sarv after as it was before operation

RANDALL L.M MURRAY S.E & MUSSEY R.D Cold test in pregnancy preliminary report of its use in prenatal care
Am.J Obst & Gynec 29 362 365 March 1935
Reaction to the cold test was determined on 104 pregnant women The authors believe that it is possible that a pregnant woman who manifests an exaggeratedly reactive vasomotor system in response to the cold test is more likely to suffer from toxemia of the latter months of pregnancy It is significant that in no case in which the response to the cold test has been persistently normal has toxemia developed and that in all cases in which toxemia has developed a hypertensive reaction has been demonstrated Of the patients who have mani fested a definitely exaggerated reaction 33% have presented the usual signs of toxemia in the latter months of pregnancy

RANDIG K Environmental factors in development of hypertension
Ztschr f Kreislaufforsch 34 165 170 March 1 1942
A study was made of 500 patients to determine the environmental factors in the development of hyper tension The findings were positive It seems that a heavy meat diet as well as too much eating contribute to the development of hypertension The same goes for cholesterine cooking salt nicotine and caffeine Further more the physical and psychological exertion has to be taken into consideration
The disposition to hypertension in women increases with each additional childbirth

RAPPAPORT I Blood pressure and respiration hyperventilation as treatment for hypertension
J.A.M.A 92 1158 1162 April 6 1929
Depot function of the lesser circulation is the principal factor in the regulation of pressure cond t ons prevailing in the systemic circulation Reduction of this depot function as caused by reduced respiratory function is probably the most important factor in the pathogenesis of chron c hypertensive disease Hyper ventilation exercises carried out in the form of an intensive and prolonged training of deep breathing are capable of bringing about marked reduction of pathologically increased blood pressure

RATH M.M & RUSSEK H I Urologic disease as cause of hypertension
Am.Heart J 29 516 525 April 1945
A review of the literature has demonstrated that there is no conclusive proof that urologic disease fre quently causes hypertension
Criticism of methods used by some investigators in studying th s problem includes lack of control series omission of statistical evaluation of the results and use of systolic blood pressure alo n defin g hyperten sion
Observations were made on 357 merchant seamen and coa tguardsmen w th urologic d sease average age 44 3 years and a control group of 654 randomly selected merchant seamen ar d coastguardsmen average age 46 4 years From these observations surgical conditi ns of the urinary tract as a general gro p do not seem to be causally related to elevation of blood pressure although causal relationship in the individual cases cannot be denied
Tables

RATHER L J The pathogenesis of hypertens on induced by renal constriction
J Exp.M 92 1 p 59 76 July 1 1950
Blood pressures were determined on 42 young male albino rats and a basal l vel establ shed The rats were the d vided into 4 groups and subjected to one of the following observations
(a) unilateral nephrectomy with exposure and handling of the opposite kidney
(b) unilateral nephrectomy and constr ct on of the remaining kidney
(c) unilateral renal con tri t on the other k dney being left intact aft r exposure and handling
(d) unilateral nephrectomy and removal of the poles of the controlateral kidney (1 3/4 nephrectomy)
A def n te signif cant ncrease in bl od p essure developed in the group subject d to operation (b) within 4 days postoperative In none of the other groups d d hyperten ion develop
Tables

✓RATLIFF R K NESBIT R.M PLUMB R T & BOHNE W Nephrectomy for hypertension with unilateral renal disease 49 ase
J A.M A 133 296 299 Feb 1 1947
Chronic arterial hypertensi n can be of renal orig n When unilate al renal d sease is demonstrated by roentgenologic examination it can be treated by nephrectomy with an expect tion of improvement or cure of the a sociated hypert nsion in about half of the ca es In the p es nt series of cases the greatest incidence of favorable r sults occurred in ca e of hronic pyelonephriti hydron phrosis and calculous pyonephrosia

RAU G C Age body weight and blood in hypertension
Am.J Physiol 158 401 No 3 Sept 1949
Report of experiments planned to study the hypertensinogen content of cloof of large old dogs and of small very young dogs Pressor responses to repeated injections of purified standard hog renin were used as a test of the blood hypertensinogen
The following finding was presented Using pressor responses to repeated injections of stndard hog renin as test the small young dogs studied had a greater supply of available blood hypertensinogen than large old dogs A possible explanation is discussed
Tables

RAY B.S & CONSOLE, A.D Evaluation of total sympathectomy
Ann.Surg 130 652 673 No 4 Oct 1949
The authors suggest that total paravertebral sympathectomy from the stellate to the third lumbar ganglia accomplishes greater blood pressure lowering effect than does the less extensive toracolumbar sympathectomy For this urpose it is not enough of an advantage to justify its use except in special sircumstances such as chiefly angina pectoris tachycardia and vasospastic states in the extremities Total sympathectomy has demonstrated its worth in these conditions
Homeostasis has not been significantly threatened by the operations after readjustment period patients can lead relatively normal lives within the limits of extreme demands on the body
Much of the preserved homeostasis as well as other evidences of persistent sympathetic activity after total sympathectomy is believed due to the existence and augmented activity of sympathetic nerves which are not interrupted by the operation
Discussion by Smithwick
Tables

REED L.J & LOW A G Biometric studies on U.S.Army officers somatological norms correlations and changes with age
Human Biology 4 509 Dec 1932
A study of physical and medical records of 5 000 officers Maximum number of years that any officer was under observation by the use of records was 28 5 years
Observations are made regarding stature weight chest pulse sy tolic and diastolic blood pre sure Detailed correlations of these factors are presented
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REESE H.H & KANT F Use of aminophylline (theophylline ethylenediamine) in neuropsychiatric disorder associated with cerebral arteriosclerosis and hypertensive encephalopathy
Am.J Psychiat 103 731 732 May 1947
Aminophylline has a place in psychiatric therapy and is to be recommended for the treatment of acute phases in psychoses with cerebral arteriosclerosis and hypertension It is far more effective in sedating these patients than the barbiturate groups Vertigo and various forms of dizziness headache insomnia as well as neurological manifestations were greatly benefited in a number of cases

REID D.E & TEEL H.M Nonconvulsive pregnancy toxemias relationship to chronic vascular and renal disease
Am.J Obst & Gynec 37 886 896 May 1939
The objective of this study of 700 women was to find a basis for offering both an immediate prognosis for pregnancy with respect to the mother and baby and an ultimate prognosis for the mother with respect to sub sequent va cular and renal disease Furthermore the study was supposed to give information whether p eg nancy toxemia initiates a progressive vascular hypertensive process
The results show that pregnancy should be avoided by patients with marked vascular hypertension On the other hand patients with mild asymptomatic hypertension which decreases considerably with bed rest ro cardiac enlargement normal urine and renal function have a 90% chance of obtaining a liveable baby provided that they are under a strict hygienic and nutritional regime

REID D E & TEEL H.M cold test in normal and in toxemic pregnancy
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Overa period of 2 years the authors have used the cold test (essentially the H nes and Brown technique) repeatedly upon a considerable number of both normal and toxemic patients during the course of pregnancy and in the puerperium
The result of the study fail to support the sugge tion that the test might reveal impending toxemia Nor do the authors find the test of practical value in the differential diagno is of pregnancy toxemias Although the number of patients in the groups is too small to exclude a general relationship between the magnitude of the re sponse to the test and essential hypertension or other forms of hypertension during pregnancy the marked variations in response in different patients of each clinical group as well as considerab e difference in the re sponse of the same patient at different times would exclude any value for the test in differential diagnosis for any individual case

REIDFR N Blood pressure studies on psychiatric patients
Bull Menninger Clin 2 65 73 May 1938
51 psychiatric patients were studied in regard to response to a standard external stimulus the cold pressor test and their diurnal blood pres ure variations The entire group gave responses similar to those of a series of non psychiatric patients studied by Hines and Brown
The paradoxical responses were shown to have particular significance from the psychiatric point of view and it i considered that the cold pressor test may be of particular value in signalizing the importance of psy chological factors in those cases of hyperten ion which are not hyperreactors to the test
3 case histories are presented together with a summary table of results of the cold pressor test

REINHART J F WILLIAMS O O & CAPELLER W S   Adenomatous hyperplasia of adrenal cortex associated with essential hypertension

Arch Path 32 169 177 Aug 1941

Nodular or adenomatous hyperplasia of the adrenal cortex is almost regularly found in association with essential hypertension The cells are hyperplastic and many show a high lipid content Comparable changes are infrequent in adrenal glands from non hypertensive patients On the basis of this finding and other evidence cited the authors suggest that hypersecretion of the adrenal cortex may in some cases be a factor in the possible genesis of what is now classified as essential hypertension This possibility should be investigated
Illustrations

REIS R A & CHALOUPKA A J   Blood pressure in the new born following normal and pathological labor

Surg Gynec & Obst Chicago xxxvii 206 211 1923

According to the authors the average systolic blood pressure during the first day of life in full term infants following normal spontaneous labor is 43 mm of mercury The blood pressure increases daily until on the tenth day of life the average systolic blood pressure is 78 mm The greatest rise occurs during the first 3 days reaching 59 mm on the fourth day The blood pressure varies with the birth weight being higher in heavier infants Infants delivered by abdominal caesarean section have normal blood pressure Premature infants have low systolic blood pressure corresponding to length of gestation
Tables

REISER M F & FERRIS E B   Nature of cold pressor test and its significance in relation to neurogenic and humoral mechanisms

Proc Central Soc Clin Research 20 29 30 1947 J Lab Clin Med 32 1420 1421 Nov 1947

A study concerned with the effector mechanism of the cold pressor response in hypertension utilizing varying degrees of sympathetic block induced by spinal anesthesia and tetraethylammonium chloride 20 patients were given the cold pressor test before and after the administration of tetraethylammonium chloride 8 patients were tested after high spinal anesthesia and in 5 cases the effect of tetraethylammonium chloride was tested following performance of cold pressor test under spinal anesthesia

Detailed results are presented and the data suggest that both humoral and neurogenic (autonomic) mechanisms may interact as clinically important factors in hypertension

REISINGER J A   Cold pressor test

M Ann District of Columbia 10 381 386 Oct 1941

The effect upon the blood pressure of a standard cold stimulus was observed in 95 patients with normal blood pressure and 48 patients with hypertension A pressor effect was obtained in all but 2 patients who had postural hypertension The incidence of hyper-reaction was higher among hypertensives than among those of normal blood pressure but the mean pressor rise was of about the same magnitude in both groups

Perhaps it is that so called vascular reactivity is dependent upon age neuropsychic factors and cardiac adaptability as well as intrinsic vascular function
Tables

RELINGER J A   Hypertension in veterans

Ann Int Med 10 1371 1389 March 1937

The incidence of hypertension among 1 369 veterans was 6% There was a comparatively greater incidence of hypertension among the Negro patients where the average age was about 5 years younger than that of the white patients The author discusses the following in respect to hypertension

A War service and post war occupation B Neuropsychiatric conditions C Obesity D Heredity E Cardiac enlargement F Electrocardiograms G Blood H Renal functions

REYERSBACH G C & BUTLER A M   Treatment of hypertension in children by sympathectomies

Med Clin N America 33 1283 1299 Sept 1949

Bilateral lumbodorsal sympathectomies were done on a small group of children suffering from renal disease with hypertension to see if the course of the disease would be modified

Six cases are presented in order to make available information concerning the effect of sympathectomy on children The authors agree that these cases suggest no general conclusion concerning the benefit that can be expected from sympathectomies in individual children suffering essential hypertension or hypertension associated with demonstrable renal disease
Charts

RHEINHEIMER E W   Etiology and prognostic tests of hypertension

Southwestern Med 16 17 20 Jan 1932

The author discusses the following aspects of hypertension

I Etiology (1) Pathologic changes in the kidney ( ) General arteriolar changes (3) Chemical substances in the blood (4) High protein diet (5) Increased viscosity of blood intestinal autointoxication and focal infections (6) Disturbance of endocrine balance (7) Infectious diseases and syphilis (8) Age (9) Stress and strain (10) Poisoning by chemicals and metals

2 Prognostic Tests (1) Blood pressure recording (2) Condition of kidneys and heart temperature variability of pressure (3) Grimes forced expiration with air exit closed followed by resumption of breathing (4) Amyl nitrate test to determine degree of elasticity of arterial walls

Finally the author presents his own findings (with regard to the last named prognostic test) of 27 cases age duration of hypertension condition of arteries over a 7 months period He discusses 3 cases in more detail and comments on the prognosis of the cases he presents
Charts

RAU G C Age body weight and blood in hypertension
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3 case histories are presented together with a summary table of results of the cold pressor test

Cases of hypertension especially those of sudden onset no matter what the age of the patient would appear to warrant complete investigation of renal arteries for abnormalities

REED AN J.E F Relation of systolic blood pressure and heart rate to attacks of angina pectoris precipitated by effort (including studies following thyroidectomy)
Am.Heart J 12 53 59 July 1936

Systolic blood pressure at onset of attacks of induced angina pectoris is higher in some cases lower in others and in many instances essentially the same as blood pressure during rest The heart rate at the onset of the attacks was invariably increased (total 35 cases) Measurements made shortly after cessation of exercise while pain still persisted revealed a systolic blood pressure higher than resting level in most cases heart rate elevated but to significantly lesser degree than at onset of attack

Similar changes in systolic blood and heart rate during and after exercise were observed in patients with no evidence of heart disease

Observations were made in patients before and after total ablation of thyroid gland With prolonged exertion made possible by this operation the systolic blood pressure and heart rate rose as high as or higher than it did during exercise before operation

Wide variation in systolic blood pressure and heart rate at onset of attacks of angina indicates such changes are not primary etiological factors in their precipitation and are of no value in diagnosis

There was no evidence that clinical improvement following total thyroidectomy was due to lessened increase in heart rate or systolic blood pressure or to decreased output of adrenalin during exertion

Tables and charts

√ ROSEMAN J.E F & WEISS S Symptomatology of arterial hypertension
Am.J M.Sc 180 47 59 July 1930

1 An analysis of the complaints of 1 090 ambulatory patients (289 males 801 females) with primary essential hypertension indicates that the following symptoms are present in more than 20% of the cases headaches (49 3%) dizziness (40 3%) aches and pains (38 7%) dyspnea (27 7%) nycturia (25 9%)

2 Epistaxis and migraine were infrequent

3 Arterial hypertension was not associated with characteristic symptomatology

4 Among conditions with normal blood pressure menopause obesity and psychoneurosis showed symptoms similar to arterial hypertension All four conditions frequently exhibit vasomotor instability

5 Psychich conditions play a more important role in hypertension than is realized

Tables

√ ROSEMAN J.E F & WEISS S Age and sex incidence of arterial hypertension
Am.Heart J 5 172 190 Dec 1929

A review article covering the following

(1) Hypertension as found in different periods of life

(2) Age of patients with hypertension at time of death

(3) Life insurance statistics

(4) Hospital reports including detailed discussion of data derived from the records of both the wards and the out patient department of the Boston City Hospital

Conclusions

1 The course of age incidence of outpatient and ward patients with hypertension in Boston City Hospital showed gradual and progressive rise up to 40 to 45 years then sharp rise after 70 years sharp drop in incidence

2 The onset of a steep rise in the age incidence curve of hypertension occurs almost 5 years earlier for women than for men

3 Hypertension was present more frequently among females than among male patients of the Boston City Hospital

4 The data suggest a possibility of etiological relationship between involutional changes of the human body and hypertension

ROBB R C & J.S Hypertension electrocardiograms experimentally produced and anatomically explained left ventricular strain
Am.J M.Sc 203 634 641 May 194

Because in acute experiments on young animals no hypertrophy and myocardial damage (in the sense of infarct or connective tissue replacement) is present one must attribute the various results to change in size of the ventricles dependent upon strain that is increased intraventricular pressure with dilatation (rather than hypertrophy)

Acute centralized systemic hypertension experimentally induced initiates a series of electrocardiographic changes reflecting the severity of the disturbance The left ventricle is enclosed by 4 muscle masses which give way in sequence the superficial sinospiral first the superficial bulbospiral next and the deep sinospiral muscle and in extremis the deep bulbospiral muscle The clinical experience of these experimenters parallels the result obtained with animals

Tables and Charts

ROBBINS I L Psychological factors in essential hypertension
Bull.Menninger Cl 12 195 20 No 6 Nov 1948

The purpose of this paper is to summarize the conclusions of observers regarding the psychological factors present in hypertensive patients and to present two cases which have been subjected to prolonged psychiatric study

According to the author there exists a rather characteristic psychological conflict in hypertensives however this does not manifest itself as a specific neurosis but rather as a chronic emotional maladjustment

ROBERTSON H F & VARMUS F Peripheral neuritis with hypertension following serum therapy case
Mil Surgeon 95 129 132 Aug 1944

A case report of polyneuritis of the cervico brachial plexus associated with paresis of the vocal cords papilledema and hypertension The onset of symptoms appeared 10 days following administration of tetanus antitoxin Attention is directed to the presence of transient hypertension an apparently rare complication of serum therapy Review of the literature failed to reveal a similar occurrence in the absence of pre existing hyperpiesis No satisfactory explanation is found to account for the elevated tension The comparatively rapid improvement suggests a favorable prognosis

ROBINOW M HAMILTON W F WOODBURY R A & VOLPITTO P P Accuracy of clinical determinations in children with values under normal and abnormal conditions
Am J Dis Child 58 102 118 July 1939

The authors tried (1) to ascertain the proper width of cuff for infants and children (2) to evaluate the factors which determine it (3) to establish a standard for normal blood pressure during infancy and childhood

Arterial blood pressures of children were recorded directly by means of the hypodermic manometer and the values thus obtained compared with values obtained by usual clinical methods

1 The proper width of the cuff increases with the circumference and with the length of the arm and probably decreases with the compressibility of the arm

2 Occlusion of an artery raises the systolic and pulse pressure in the artery immediately above the occlusion - the changes being usually less pronounced in pulses of central contour

3 The use of 3 cuffs of different widths enables the pediatrician to estimate the blood pressure with reasonable accuracy

4 The blood pressure increases less with age than is commonly stated

5 The blood pressure is slightly increased by moderate excitement

6 During cyclopropane anesthesia a slight rise of blood pressure was noted in most cases

7 Changes in blood pressure during asphyxia are discussed and illustrated

Charts

ROBINSON C E DILL L V CADDEN J F & ISENHOUR Glomerular filtration and renal blood flow in hypertensive women and in post toxemic hypertension
Am J Obst & Gynec 44 616 622 Oct 1942

A series including 23 patients were divided into two groups (1) the nonparous hypertensive group consisted of 10 patients with blood pressure levels of 150 240/90 170 average level being 185/110 and (2) the post toxemic group consisted of 13 women who were known to have had pregnancies complicated by hypertension and albuminuria Blood pressure readings varied from 130 230/90 130 averaging 157/100

All patients were throughly studied clinically and examination of eyegrounds heart and vascular status ere made The age ranged from 23 to 61 years and the toxemic patients had been pregnant from 1 to 39 years previously

No evidence was found to support the theory that post toxemic hypertension varies from hypertension in the nulliparous female

Substitution of inulin for urea clearances in the determination of glomerular filtration shows no significant difference in glomerular filtration in the post toxemic women when compared to those who have had no pregnancies

The data show that afferent arteriolar constriction plays a pronounced part in the regulation of renal blood flow in hypertension and suggests that the functional status of this arteriole may well explain most of the alteration of renal function found in this disease

Tables

ROBINSON G C Relation of emotional strain to illness
Ann Int Med 11 345 353 Aug 1937

A study of hospital patients is reported which investigated the nature and extent of emotional strain as related to illness The study has demonstrated that emotional strain frequently causes an important component of illness deserving consideration in diagnosis and treatment

A detailed case report is presented to illustrate psychogenic symptoms in organic disease Methods of study and treatment are discussed

The author emphasizes the need of greater consideration of the patient as a total individual in order to gain a better understanding of emotional disturbances as related to illness in hospital practice

ROBINSON G W Relation of hypertension to disorders of the nervous system
Southwestern Med 13 9 14 Jan 1929

The author lists as the causes of high blood pressure drugs diet toxins exposure overwork and mental states He stresses that morbid fears worry and anxiety are all depressive emotions They are responsible for so many of our disabilities that we should have a philosophy of life which will prevent us from yielding to such emotions The general treatment of nervous high tension is a correction of bad habits of worry rest proper diet and mental suggestion Physiotherapy may be used in both arterial and nervous hypertension

KENSON R W & O'HARE J P   Potassium sulfocyanate therapy further experiences
New England J Med 221 964 969 Dec 21 1939
5 patients wi h hypertension were treated with potassium sulfocyanate given by mouth Maximum drops blood pressure of over 100 mm systolic and 35 mm diastolic were observed in 3 cases average drops of 41 mm systolic and 20 mm diastolic occurred in 63% of the patients Symptomatic effects of the drug were chiefly in the relief of hypertensive headaches In 18 out of 20 cases Toxic symptoms occurred in 29 cases or 38% The less serious toxic complications accounting for 23 of these 29 cases consisted of nausea weakness dermatitis purpura and a decrease in libido Serious complications consisting of dermatitis ex ... congestive heart failure cerebral thrombosis angina pectoris and psychosis occurred in 6 cases
Tables

ROBINSON S C   Hypertension in relation to height variation with body build and obesity
J Lab & Clin Med 26 930 949 March 1941
A report on certain aspects of statistical analysis of 10 883 persons The analysis is detailed and ex ... The author reports that a gross anthropological study of 2 552 men and 2 021 women showed a po... correlation of height to blood pressure
The following concluding statement is made   There are therefore three influencing height factors in hypertension
1 The difference in blood pressure between tall and short persons in specific build groups   a height difference
The difference in pressure between tall and short persons weight constant weight difference here dependent on build factor
3 The difference in pressure between short and tall persond in any total group in which build and height are naturally mixed   height differences are again dependent on build factor
Extensive tables and charts

ROBINSON S C   Hypotension ideal normal blood pressure
New England J Med 223 407-416 Sept 12 1940
The author deals with his subject in the following way
1 Arbitrary levels of hypotension
2 Incidence of hypotension based on a sample series of 10 883 persons representative of an urban group
3 The hypo ensive habitus   hypotension is commonest among the linear built or narrow chested type of build
4 Report of results of an extended study of low pressures taken over a period of 5 to 10 years
5 Mortality associated with low blood pressure
6 Outline of the clinical picture of the hypotensive person   Illustrated by brief case report and mater al culled from the literature concerning races and nations exhibiting low blood pressure   The author concludes tha there a e no symptoms peculiar to or due to low blood pressure
7 Relation of level of blood pressure to vitality   neither fatigue nor vitality in the author s op nion is a function of the level of blood pressure
The final statement of the author reads   Hypotension is not a disease   It is an ideal blood pressure level
Tables and Charts

ROBINSON S C   Hypertension body build and obesity
Am J M Sc 199 819 829 June 1940
The role of obesity in hypertension is evaluated by separati g obesity from the body build factor with which it is intimately bound
Body build is shown to be closely correlated with hypertension   In any we ght group the broad chested individuals show the highest mean systolic and dia tolic pressures the greatest inc dence of hypertens on and the lowest incidence of low blood pressure

ROBINSON S C   Comparison of medical and surgical treatment w th spe al ref rence to importance of psychich factors in evaluation of results with report of 92 cases treated med cally
J Nerv & Ment Dis 91 157 174 Feb 1940
The author believes that splanchnic secretion adrenale tomy a d imilar oper t ons cannot be expected to lower the blood pressure in hypertension by a pure physiologi m chanism such as rel eving vasoconstriction of the smaller vess ls or by decreasing the se ret on of adr nalin
Th good results with fall in blood pressure rot d after such operat ons are probably be t explained by some ind rect mechanism such as shock bed rest or by psychogenic factor
According to the author psychothe apy w ll probably become the most important fa tor n the treatment of hypertension

ROBINSON S C & BRUGER M   Body build and hype t n on
Arch Int Med 66 393 417 Aug 1940
In th s study of blood pres ure and body build made on 658 persons observations led to the general con clusion that a positive correlation b tween body build and blood pressure doe exist
In both men and women there is an increase n th average build w th an ncrease in age this increase in the adults is greatest before the age of 50 y ars
Men and women of lateral or broad bu ld show a ma ked tend ncy to hypertension
Tables

ROBINSON S C & BRUCER M   Range of normal pressure statistical and clinical study of 11 383 persons
Arch Int Med 64 409 444 Sept 1939

The data collected indicate that the normal range of the systolic blood pressure for men and women is from 90 to 120 mm of mercury and the diastolic blood pressure from 60 to 80 mm

A normal persons attains his mature blood pressure at about adolescence and keeps that range throughout life except for a slight rise at about 20 years   Normal blood pressure does not rise with age   Prehypertensive and hypertensive pressures do rise with age   High blood pressure is a long term disease having its genesis at an early age   It is not a disea e that suddenly emerges with middle age

Tables

ROBINSON S C BRUCER M & MASS J   *Hypertension and obesity statistical and clinical study of 10 883 individuals*
J Lab & Clin Med 25 807 822 May 1940

An investigation of the relationship between weight and blood pressure in a group of 10 883 individuals residents of an urban region   An increase in weight was found to be concomitant with an increase in blood pressure   Weight however was found to be a poor measure of obesity and has to be correlated with height   In general it may be said that obesity and hypertension are frequently associated but judgement as to the significance of this fact must be withheld until the influence of body build on obesity has been appraised

Tables Charts

J ROBINSON S K   Age distribution and sex incidence of hyperthyroidism and hypertension interrelation of these two conditions
Endocrinology 26 409 417 March 1940

This paper is a study of 157 patients 95% white 5% Negro which were put into two clinical groups as follows   A Hypertension - 61 cases   B Hyperthyroidism 96 cases   The purpose was to shed further light on supposed interrelation of these two conditions   Hyperthyroidism and hypertension are closely related   Certain German and English workers say that hyperthyroidism is responsible for the hypertonia though some evidence to substantiate it cannot be entirely accepted   It may be true in some cases

A broader view considers the two conditions as resulting from a common underlying neuro glandular disturbance the nature of which is not entirely clear at the present time   There has been too firm a belief that an elevated basal metabolism rate determines the disease entity and that elevated b ood pressure determines another   Even though the cause may be the same in several persons the expression of the disease may be quite different, depending on the personality sex climate and a host of other factors   It may be because of our failure to visualize disease as conditioned by these variables that we regard the different *diseases as fixed entities*

Tables

J ROBINSON S K   Gastro intestinal symptoms in hypertension
Am J Digest Dis & Nutrition 3 296 299 July 1936

1 In 60 cases (25 male 35 female) of hypertension also having gastro intestinal complaint there was a 20% incidence of peptic ulcer

2 Colitis was also frequent having an incidence of 15%

3 Hypertension hyperthyroidism and a lesion in the alimentary tract such as colitis or ulcer occurred together 7 times

Conclusion   It is reasonable to conclude that the gastro intestinal symptoms seen with hypertension are to a considerable extent conditioned by the cardio vascular neuro vegetative and other phenomena concomittant with the hypertension

Tables

ROBINSON S K   Hyperthyroidism masked as assential hypertension
Illinois M J 69 77 81 Jan 1936

Twelve cases of hyperthyroidism are cited all had systolic hypertension and 11 had diastolic hypertension

The author presents evidence to show that the diastolic pressure in hyperthyroidism is elevated as well as the systolic

Evidence shows that the incidence of hypertension in hyperthyroidism is much higher than in the general population   The possibility that hyperthyroidism may be an etiologic factor in hypertension should be considered or that both conditions are manifestations of some other underlying disturbance

RODBARD S   Body temperature blood pressure and hypothalamus
Science 108 413 415 No 2807 Oct 15 1948

Data were obtained in the course of studies of the regulation of normal blood pressure which suggested a general relationship between body temperature and blood pressure   The e studies were extended to include mammals birds reptiles and amphibians   A consideration of the phylogenetic development of temperature and regulation led from this

Blood pressure increased with increased body temperature   In the turtle and frog the same relationship was elicited as in mammals and birds   These relationships hold only within a given temperature range for each species

The studies indicated not only that the relationship depends on a central nervous system but that it may be but a portion of a more general integration

In homeotherms the superimposition of a relatively constant body temperature serves to mask the basic integrative mechanism but induced hypothermia causes the animal to revert to a more primitive condition and thus exposes the homeodynamic apparatus to experimental analysis

Tables

RODBARD S & KATZ L.N   Effect of pregnancy on blood pressure in normotensive and hypertensive dogs
Am.J Obst & Gynec 47 753 63 June 1944
Over a period of 6 years the authors have measured blood pressures for varying periods on several hund ed dogs Among them were 31 pregnancies in which blood pressure readings were obtained during a portion or all of the pregnan y 13 in animals with nephrogenic hypertension and 18 in normotensive animals
Results
1 The blood pressure in normotensive and in hypertensive dogs tends to fall late in pregnancy The degree of reduction of blood pressure is apparently affected by the size of the litter
2 It is possible that the blood pressure decline is related to the low resistance placental circuit which developes during pregnancy It is also possible that some humoral factor (not involving the fetal kidneys) caused by the maternal endocrine alterations which accompany pregnancy contributes to the blood pressure change and helps to account for the variability in the time at which this blood pressure drop occurs
3 Surgical or other traumatic intervention during the latter part of pregnancy appears to predispose to abortion in the dog
Charts

RODBARD S & KATZ L.N   Depressor effect of tissue implants in hypertensive dogs
Am.Heart J 26 114 119 July 1943
The authors have implanted kidney or other tissue in a large number of experiments in dogs with nephrogenic or spontaneous hypertension and in normal dogs with the following results
1 The subcutaneous implantation of 10 to 30 grains of fresh dog kidney leads to abscess formation in 48 to 72 hours and frequently results in a reduction of the blood pressure of dogs with nephrogenic or spontaneous hypertension
2 In normal dogs a similar abscess formation has no appreciable effect on blood pressure
3 Abscesses produced by implantation of fresh muscle liver or spleen have little or no effect on the blood pressure of hypertensive dogs
The significance of these results is discussed
Tables

RODBARD S & KATZ L.N   Role of renal metabolism in hypertension and uremia
J.Exper.Med 73 357 364 March 1941
The chemical mediator of renal hypertension is paidly destroyed by the metabolic activity of the normal kidney The excretory function of the kidney plays little if any role in eliminat ng the mediator of hypertension If specific substances are responsible for the uremic syndrome they are ne ther produced nor el minated o any significant extent by the metabolic activity of the kidneys The elimination of these postulated uremia producing substances would have to be primarily dependent upon the excretory activities of the kidney No evidence was obtained to support the view that a unilateral ureterovenous fistula leads to nephrotoxic symptoms

RODBARD S TINSLEY M (et al)   Role of the central nervous syst m n the body temperat re arter al pressure relationship
Am.J Physiol 158 135 140 No 1 July 1949
An increase or decrease in the body temperature of the turtle result n co variance of the sy temic arterial blood pressure These changes persist for periods of at least 3 hours if the body t mperatu e is kept constant At higher temperatures (38 degrees to 40 degrees Centigrade) th ress re s not maintained but falls to low levels and death ensues Section of the vagi has no effect on the relat onship Destr ct on of the brain or section of the cervical spinal cord at the occiput results in a fall in pressure to levels of about 16 systolic and 1 mm Hg After this procedure warming or cooling of the an m al no longer result in a hange in the blood pressure These experiments are considered as evidence for the dependen e of the temperature pressure relationship upon a mechanism residing in a central nervous system
Tables

RODIN F.H   Hypertensive retinopathy associ ted with adrenal medullary tumor (pheochromocytoma) new clinical entity
Arch Ophth 34 402-407 Nov Dec 194
Pheochromocytoma is a form of chrom f n tumor wh ch chara ter zed by a tr in of hyp rtensive symptoms including def nite ocular changes Epinephr n or an epinephrin pressor substan is contained in the cells of this tumor Large amounts of this substance freed into the blood stream cause vasoconstriction elevate blood pressure and stimulate the nervous system prod ng pa oxysms of hypertension In the eye changes are typical of hypertensive ret nopathy
Extensive changes in the ret nas characterized by changes n he retin l ves ls h mo rhages and formation of exudate were observed in a patient w th adrer al m dullary t mor (pheochromocyt ma) After removal of the tumor the occular phenomena disappeared No def nite expla ation was found of the mechanism by which the r tinal changes are produce l
The author feels th t the occular con i tion of th cas is a new l nical ent ty and should be classified as hypertensive retinopathy associated w th an adre al tumor
Plates

ROGERS E   Paroxysmal hypertension assoc ated w th g nglio ne oma of suprarenal medulla
Am.Heart J 8 269 274 Dec 193
A review of several cases of suprarenal m dullary tum rs ne ortical tumor and one retroperitoneal malignant blastoma somewhat re mbl ng a suprarenal tumor whi h were as ociated wi h paroxysmal hypertension gastr c di turbance and var ous ymptoms of imbal e of the vegetat ve nervous system A c se of ganglioneuroma of th supraren l med lla ociat d with evid nces of imba ance of the vegetative n rvous system i report d The med cal tre tme t g ven w g nerally n ffectual X ray therapy in this case was slightly palliative Surg cal removal f the t mor has prod ced a cure in 3 cases

ROGERS F T   Studies on the brain stem   IV   On the relation of the cerebral hemispheres and thalamus to arterial blood pressure

Am J Physiol Balt liv 355-374 1920 1921

A method is described for studying the blood pressure of 39 pigeons   Removal of the cerebral hemispheres in 15 birds led to a fall of the average *arterial pressure by 17%*   This lowered pressure persisted for time intervals up to 4 months after decerebrat *on it never* regained the level before operation   *Removal of* the cerebral hemisphere and thalamus leads to a similar or *greater fall* in arterial pressure varying as the body temperature varies   The greater the fall in body temperature the *greater the depression* of the arterial *pressure*

The arterial pressure is not appreciably disturbed by *removal* of a *single* cerebral hemisphere localized lesions of both hemispheres or localized *thalamic lesions* provided these injuries are not associated with starvation

These experiments suggest that the cerebral *hemispheres and thalamus* exert a *continuous tonic stimulating mechanism*   This action is not one of localized cerebral centers but varies according to the amount of brain substances destroyed *rather than the particular area destroyed*
Tables Charts

ROGERS W F & PALMER R S   Essential hypertension   prognosis and comparison of medical and surgical treatments

Am Pract 1 459-464 May 1947

Observations on 646 subjects who were classified according to organic changes as revealed by various methods of study in head heart and kidneys

Each classification is discussed in detail   the *sex distribution incidence of possible etiologic participating or precipitative factors follow* up data with details of death are then considered

The paper concludes with an appraisal of the therapeutic effectiveness of both medical and surgical treatment
Tables

ROGERS W F & PALMER R S   *Transient* nervous hypertension as military risk   relation to essential hypertension

New England J Med 230 39-42 Jan 13 1944

Transient nervous hypertension found in physical examination *for* naval service is evidence of a nervous pressor reaction   Persons with tran ient nervous hypertension have a somewhat more marked rise in the *blood pressure in response to cold than do normal controls but definitely less than do patients with definite* but mild early hypertension

Reference to age duration of known hypertension morbidity and mortality at a given moment in the follow-up of two groups of patients 211 with mild or early essential hyp rtension and 237 with marked or late hypertension suggest that transient nervous hyperten ion taken as the first sign of essential hypertension need not be disqualified from military service

ROJAS F   SMITHWICK R H & WHITE P D   *Nonspecific major operations and lumbodrosal sympath ctomy* comparison between their effects on blood pressure

J A M A 126 15 17 Sept 2 1944

This study shows that non specific major operations as studied in 100 patients produce some immediate reduction of the blood pressure *of* hypertensive patients as reported in previous papers   However this re*duction i not pronounced and in the great majority of cases persists for* only a short time

Lumbodorsal sympathectomy by the Smithwick technique as studied in a second group of 100 cases produces in the majority a *pronounced reduction of blood pressure which p rsists afte* [illegible] *nsiderable period of* observation

The specificity of this operation is also demonstrated by the *fact that definit* [illegible] ob erved until after the second stage operation has been performed the first stage producin [illegible] *effect as* any other major operation

Finally the authors suggest that in patients in whom major operations were [illegible] *to* lumbodorsal sympathectomy a pronounced and lasting reduction *of blood pressure* [illegible] the sympathetic resection is performed   This is *further evidence* of the fact [illegible] has a specific effect in reducing blood pressure
Tables

ROOK A F & DAWSON D J   Hypotension and flying

Lancet *2 1503 1510 Dec 31 1938*

Hypotension is sometimes accompanied by symptoms such as postural giddiness and is an absolute bar to all flying

It is probable that the ability of the cardio vascular sys em to withstand centrifugal effec depends largely on its power to react *rapidly to stress   This power is* as necessary for the *normal* blood pressure as for the hypotensive

ROSE E   *Malignant* hypertensive vascular disea e simulating hyperthyroidism   *clinical course* maximal subtotal thyroidectomy

M Clin North America 16 261 269 July 1932

Occasional sources of confu ion in the diagno is of hyperthyroidism particularly certain *forms of* tension are mentioned   The syndrome of *malignant hypertension is briefly* described and the points of resemblance between this disease and *hyperthyroidism* are enumerated   The frequency of elevation of the metabolic rate *in hypertension is discussed*

A plan for the possible amelioration of malignant hypertension by removal of most *of the thyroid gland* described the case history of a patient with malignant *hypertension in whom* maximal subtotal was performed *without effect* upon the usual fatal course *is presented*

ROSE R.H Weight reduction as treatment for high blood pressure
M J & Rec 131 391 392 April 16 1930
A brief general article in which the author reaches the following conclusion
1 Weight reduction is an effective means for the reduction of high blood pressure
2 Experience teaches that diastolic and systolic pressures can be reduced approximately 50% of the amount by which they exceed 80 and 120 respectively
3 By rational feeding patients with essential hypertension may live for years with lowered pressure reducing mortality from heart and arterial causes
4 Overeating is likely to cause rise in pressure to the former high point
5 Advantages of weight reduction and subsequent dietary control in hypertension are discussed

ROSE R.H Weight reduction its indications in high blood pressure
Am Med Burlington Vt n.s xviii 418-420 1923
The author recognizes weight reduction as a therapeutic measure which may be used in cases of high blood pressure and sets forth in this article the indications and contra indications for this type of treatment
1 Indication A Most cases of recent development B Conditions of high blood pressure stasis
C Cases due to gastro intestinal toxemia D Certain cases of myocarditis
2 Contra indications A Thickened narrow arteries may require high blood pressure to force the blood through them and keep them open B Certain cases of angina pectoris would be injured by blood pressure reduction

ROSE R.H Weight reduction further consideration of its effect on high blood pressure
Am Med Burlington Vt n s xviii 26 28 1923
The author reports interesting cases in which reduction of blood pressure accompanied weight reduction through dietetic treatment He reaches the following conclusions
1 High blood pressure frequently drops quickly and steadily during weight reduction and maintains a lowered reading as long as a normal diet is followed
2 Many symptoms attendant upon high blood pressure at the same time
3 When the heart is embarrassed and the pulse irregular with or without edema of the lower extremities if the blood pressure is very high this method of treatment may relieve the whole groups of symptoms
4 These results may be explained by a lessening of the toxemia due to carbohydrates fermentation and the creation of an intestinal flora more favorable to health

ROSENBERG B ROSENTHAL A.E & ROSENBLUTH M.B Effect of the low sodium diet and rice diet on arterial blood pressure

Am J Med 5 815 820 No 6 Dec 1948
9 patients with hypertension were treated by diet 7 received a low sodium diet adequate in protein and 4 received the rice diet in addition to this one 1 had the rice diet alone and in one patient observation was discontinued because he did not adhere to the diet 4 of 7 on the low sodium diet experienced a statistically significant fall in blood pressure in 3 there was no change Of 5 patients on the rice diet 3 showed statistically significant falls in both systolic and diastolic pressures but only one to a normal value The effect of the rice diet was only slightly greater than that of the low sodium diet Although there was a fall in blood pressure in 5 of the patients studied there was no relief of symptoms

ROSENBERG E F Brain in malignant hypertension clinicopathologic study
Arch Int Med 65 545 586 March 1940
Purpose of the study to survey the brain in cases of malignant hypertension to catalogue lesions present and if possible correlate these lesions with symptoms that occurred in life
Material 17 brains of persons dying with malignant hypertension 5 women and 12 men aged 7 to 65 years mean age 43 years
The author reviews clinical data on patients and pathological observations on the brains according to the following schema
1 Objective findings
2 Arteriosclerosis and the brain in hypertension
3 Cerebral lesions in malignant hypertension
4 Relation of symptoms to lesions
5 Proposed clinicopathological classification of the cerebral phenomena of severe hypertension
The author concludes from the data
1 Cerebral arterioles are profoundly altered in patients with malignant hypertension
2 The brain frequently is seriously injured by vascular lesions in patients with malignant hypertension
3 The previously designated cerebral crisis of malignant hypertension may often be associated with wide spread destructive cerebral lesions
Illustrations and Tables

ROSENBERG E F Brain in malignant hypertension
Proc Staff Meet Mayo Clin 14 217 22 April 5 1939
The purpose of the study was to survey the brain in cases of malignant hypertension catalogue the lesions which occur in it and if possible relate these lesions to the symptoms which occurred during life
The material was obtained at postmortem examinations in 17 cases of malignant hypertension Conclusions
1 Cerebral arterioles are markedly altered in cases of malignant hypertension An increase in thickness of walls reduction in ratio of wall to lumens occurs
2 The brain is frequently seriously injured by vascular lesions in cases of malignant hypertension
3 Patients who have malignant hypertension and whose clinical course indicates that cerebral injury has occurred can be divided into distinct groups on the basis of the nature of these symptoms and for each group a characteristic pathologic picture is inferred with considerable accuracy

4 Transient cerebral phenomena of malignant hypertension which previously have been designated by terms cerebral crisis or hypertensive encephalopathy and ascribed to vasospasm may be associated with widespread destructive cerebral lesions

ROSENBERG M Causes of arterial hypotension in Arabs of Palestine
Arch f Schiffs- u Tropen Hyg 34 323 327 June 1930
The author discusses very briefly the following in relation to hypertension
A Malaria B Lues C Diet D Endocrine E Climate

ROSENBLUETH A & SCHLOSSBERG T Sensitization of vascular response to sympathin by cocaine and quantitation of sympathin in terms of adrenalin
Am J Physiol 97 365-374 May 1931
The action of sodium bicarbonate glygocoll calcium chloride and cocaine on the rises in blood pressure produced by injections of adrenalin in Elliot s preparation was studied Cocaine proved to be the only effective sensitizer among these substances
There is a close similarity between the action of cocaine a a sensitizer of smooth muscle to the influence of adrenaline and its role as sensitizer to the action of sympathin This evidence favors the view of the identity of adrenin and sympathin

ROSENBLUTH M B Practical management of hypertension
Bull New York Acad Med 20 557 574 Nov 1944
In considering the etiology of hypertension prior to a determination of suitable therapeutic measures the possibility of unilateral lesion amenable to surgery should be ruled out together with other possible kidney conditions Once essential hypertension is established as diagnosis data concerning level of arterial pressure and its lability cardiovascular status and renal status should be gathered to evaluate prognosis
Remedies for reducing high arterial tension are innumerable and none are entirely satisfactory *Bed rest* weight reduction and use of potassium thyocyanate are discussed by the author with special emphasis on the success or failure of the last mentioned measure Surgical treatment may be of two types
(1) directed at decreasing secretion of adrenal gland by resection or denervation
(2) other attempts to paralyze vasomotor control over large vascular area
The author evaluates the effectiveness of surgical procedures todate
Finally the administration of renal extract and amimeoxidase are considered briefly and a short comment is made concerning the u e of psychotherapy for hypertensive patients

ROSENFELD I Native hormones of posterior pituitary gland pressor principle
Bull Johns Hopkins Hosp 66 398 403 June 1940
The pressor and oxytocic principles exist in untreated press juice of the posterior pituitary lobe in the form either of a single large molecule or of two separate large molecules which are very similar in their sedimentation properties Because of the mild extraction procedure used this large molecular species is regarded as native pituitary hormone A provisional estimate places the sedimentation constant of the native hormone at a value about one half or one third that of egg albumin
Pituitrin Pitocin and Pitressin contain the active principles in the form of physiologically active cleavage products which are much smaller in molecular weight as compared to the native hormone By momentary boiling in 0 2 % acetic acid the native hormone can be cleaved in part to yield physiologically active split products
Tables

ROSENTHAL S R Studies in atherosclerosis chemical experimental and morphologic role of blood pressure
Arch Path 18 660 698 Nov 1934
Under the heading Relationship of physical and chemical changes in the aorta to inclination to atherosclerosis (F A A = fat angle of aorta) are discussed (chemical analysis of 500 aortas of Negroes and whites)
A The relationship of age and the internal elastic membrane to the lypoid deposit in the aorta is first di cussed The important alterations of the aorta with age are given as changes in the interstitial substance and elastic lamellae which finally lead to a dilatation of the vessel
From a histologic tudy of the arteries of the cholesterol fed rabbit and the human being it is suggested that not only the infiltration of lipods influences the latter s deposit in the arteries but that the expression of the lipoids is of equal importance The degree of development of the elastic limiting membranes influences both the infiltration and the expression From a physical standpoint the latter is dependent on the nature of the elastic membranes the distance between the limiting membrane and the lumen of the vessel and the inequality of the contraction of the various parts Evidence to illustrate this was given
In essential hypertension the degree of dilatation was somewhat higher than that found in cases without hypertension
B The bearing of hypertension on the inclination to atherosclerosis It is a long established fact that arterial tension influences the development of atherosclerosis When the former is present the latter will invariably follow though hypertension can occur without atherosclerosis Atherosclerosis can de elop without increased blood pressure in the present series examined 48%
In essential hypertension and chronic glomerular nephritis in which the blood p essure is high the fat angle of the aorta is far above the average
C Pathogenesis of athero clerosis of aorta as based on cholesterol metabolism blood pressure and infiltration and expression of lipoids are next discussed Normal considerations age cholesterol metabolism blood pressure combination forms includ ng blood pressure and cholesterol metabolism disturbances are included
Arterial tension as determined by the weight of the heart was an important factor in the production of atherosclerosis but atherosclerosis and hypertension are not synonymous In 48% of the series atherosclerosis occurred without it

In essential hypertension and in glomerular nephritis the fat angle of the aorta was high while in carcinoma and tuberculosis in which the arterial tension was lower the fatty angl of the aorta was lower but not correspordingly so
Plates Charts Tables

ROSS J.B DREYER N.B & STEHLE R L Cardiac action of pituitary extract (posterior lobe)
Pharmacol & Exper Therap 38 461 472 April 1930
The coronary flow and peripheral output of the heart have been determined simultan eusl t fore and after the administration of pituitary extract The results indicate that coronary spasm i at least one of the important factors which may cause a fall of blood pressure under certain circum tances wl en pituitar is administered Possible complications due to constriction of the pulmonary vessels and of a dir ct action upon the heart muscle are also discussed

ROSS P.S Hypertension in child case
Ohio State M.J 32 983 984 Oct 1936
An unusual case of a 12 year old boy with a hypertensive heart disease and i nephritic insufficiency of obscure etiology He lived over 4 months with a kidney function of 4% or less and lived for 6 months after the onset of the papilloedema intracranial hypertension convulsions and rupture of some cerebral vessels
Charts

ROSS R.A CARTER F.B (et al) Observations on pre eclampsia eclamps a and h p rtensive vascular disease in pregnancy
South.M.J 41 803 809 No 9 Sept 1948
A study of 53 women with the purpose to reduce the number of deaths of pregnart hypertens e patients by a critical analysis of their management Discussed are
(1) A comparison of the histories of the hypertensive death of pat ent w th those of the surviving group (2) Racial distribution (3) Age distribution (4) Estimate of prenatal car (5) Change in optic fund (6) Heart size (7) Blood chemistry findings (8) Induction of labor and type of d livery (9) Fate of nfants
Charts

ROTH G.M Postural effects on blood pressure followir„ interruption of vasomotor rerves of m n
Am.Heart J 14 87 103 July 1937
1 In cases of posterior ifradiaphragmatic bilateral resection of the splanchn nerves and b lateral r moval of first lumbar ganglions results of voluntary change to upright from horizontal posit on in 6 hypertensive patients were
(a) Change from decrease of 9 mm to 9 1 mm systolic blood press re
(b) Change from increase of 8 4 mm to 3 2 mm in diastolic pressure
(c) Change from increase of 11 8 beats/min to 12 3 beats/min in ardiac rate
2 Voluntary change from horizontal to upright position by 6 patients after v ntral rh z tomy caused varied results according to extensiveness of denervat on
3 Results in cases of extensive bilateral splanchnic resect on part al resection of c l plexus nd bilateral partial res ction of suprarenal glands with bilateral removal of f rst and second l mbar g ngl ons and intervening trunks results of assumption of upright posit on of 2 essential hyp ten iv s wer
(a) Change from no decrease to decrease of 21 4 mm in systoli bl od pressure
(b) Change from increa e of 5 3 mm to decrease of 10 5 mm n d as l c blood pressur
(c) Change from increa e of 12 beats per min to 32 9 beats per m n n pul ra e
4 Significant decreases in blood pressure of pat ent who had essent al hyperten ion part larly when they were in upright position were not prod ced by surgical methods ex ept when xt n ve lo l ral sympathetic denervation was effected When less radical operation w e perform d magnit d of the dec ea e seemed roughly proportional to extent of denervation
Tables and Charts

ROTH G M ROBINSON F.J & WILDER R.M Changes of sy toli and d as ol pressure and respon e of pressure to cold pre sor te t among pa en s ffe ing f om Add son s d sease dur ng treatm nt w th de oxycorticoster one acetate (adrenal preparat on)
P oc Staff Meet Mayo Clin 18 450 456 Nov l 194
The investigation was begun to d term ne whether the old p essor test before t eatm nt ould be u e l to indic te the case in which hypertension would develop earl est dur ng the treatment d f n te ev d nce for the xplan t on of
Because the data are ava lable on only a small numb r of p t en t co terone a t te s t at h nd tl s s the change of blood pressure follow ng treatment w th desoxyco tion of s n e well controlled ob e v tions neces arily a preliminary report l mited to a pre ent Dis a e n av be hyp rr et v to the cold pressor
The e studies show tl at pat ents who hav Add n th on s in whom th test and that tl o e reacting to this test w th th g eate t elevat on of blo d pr su e ment with desoxyc rti earliest a d greatest ri e of blood pre sure m y be ant c p t d f om continued tr costerone acetate
Tables

ROTTA A & MIRANDA A Nor al v lues of the arter l pre s re and f q ncy of rt ri l hypert n i n in h gh altitudes
Am.Heart Jour XXXVII 670 1949
In a town of bout 7 000 inhabit nt at 13 850 f et abo e a level (Mo ococh P ru) n investig tion was condu ted to det rmine ncidence of a t rial hype ten on
The blood pres ure of 1 878 h althy ndiv duals betw en 18 and 71 years of age was m r l no th s group were 53 Caucas an dweller of high alt t de for m ny y rs the rest we e nat ve Ind ans Th f llowing r ult were obtai ed

1 No cases of arterial hypertension were found

2 The systolic pressure is lower in men at high altitude than in those at sea level (mean pressure 108 mm) The diastolic pressure is higher than at sea level (mean pressure 88 mm)

3 The few non Indians showed no difference from the natives either in the systolic or in the diastolic pressure

Abstract Third Inter American Cardiological Congress

ROWE L W Oxytocin (pitocin) and vasopressin (pitressin) pressor action
Endocrinology 13 205 212 March April 1929

The author shows experimentally that

1 The pressor action of vasopressin to be entirely similar to that of an active extract

2 The pressor action of oxytocin is chiefly due to the presence of the very small amount of inseparated vasopressin

3 Neither vasopressin nor oxytocin produces a depressor action under proper test conditions

4 There is an absence of an appreciable amount of histamine in either vasopressin oxytocin or pituitrin

5 Tolerance to vasopressin as to pituitrin can be produced with large or even small doses injected too frequently and lack of tolerance can also be shown with proper test conditions

Charts

ROWLAND R Medical aspects of essential hypertension (use of salt free or low sodium and rice diet)
J Arkansas M Soc 44 239 242 April 1948

The author states that the treatment of hypertension must be conceived of as a long range project which must be directed over a period of years and aimed at preventing the ultimate development of cardiac cerebral and renal complications Most cases of hypertension are symptomless until these complications occur and the symptoms that are present are most often not due to the increase in blood pressure There is no medium at present that will consistently lower blood pressure and keep it at a low level In a certain percentage of cases either a low sodium diet or so called rice diet will lower the blood pressure

RUBIN I C & DAVIDS A M Hypertension associating uterine fibroids considered from viewpoint of surgical risk (based on review of 500 cases)

The records of 500 cases of uterine fibroids unselected and consecutively operated taken from gynecological service at Mount Sinai Hospital were examined Hypertension was found in 67 an incidence of 13 4% Analyzed with reference to the age groups there appeared to be no appreciable increase in hypertension which could be attributed to the presence of these uterine tumors The review further showed that hypertension per se does not seriously increase the risk of hysterectomy and need not except in the malignant type contra indicate surgical intervention

UCKER M P & CONNEL J W Blood pressure in the new born
Am J Dis Child Chicago xxvii 6 25 1924

The authors present a review of the literature As a result of their studies of a sample of new born babies one third Negroes the authors present the following conclusions

1 The oscillatory method of taking blood pressure with an aneroid sphygmomanometer is clinically applicable to new born babies Comparison with the usual auscultatory method shows that when used on very young infants it is sufficiently accurate for clinical purposes

2 The mean systolic pressure at birth is 55 mm Hg mean diastolic 40 Systolic blood pressure increases with age more rapidly than diastolic

3 Toxic conditions of the mother seem to have some influence on the blood pressure of the child which is more marked on the first day of life

4 This method may possibly furnish an additional sign of some value in the diagnosis of intracranial hemorrhage

5 Blood pressure in general varies directly with total length of infant

6 Sex and age have no influence on the blood pressure of the new born

Cases which the authors regard as abnormal are presented briefly

RUDOLF G de M Unusual results on blood pressure following injection of epinephrine
Endocrinology 23 366 367 Sept 1938

The paper reports unusual results following subcutaneous injection of epinephrine Subjects were male and female general paralytics Changes in pressure consisted of pressor and depressor effects

A A decrease of pressor effect and increase of depressor effect produced by previous injection of from 0 29 to 0 59 mgm epinephrin Decrease occurred in 10 experiments in 7 subjects Increase in 8 of 10 experiments in 7 subjects

B At the second injection an increase of dose of 50% in one subject increased both pressor and depressor effects In subjects who received equal doses at each injection a tendency occurred for the duration of the pressor effect to be diminished and that of the depressor to be increased with injections after the first The altered effects were found 7 to 36 days after previous injections Effects of injections are cumulative

RUSKIN A BEARD O W & SCHAFFER R L Blast hypertension elevated arterial pressures in victims of Texas City disaster
Am J Med 4 228 236 Feb 1948

Study of 180 victims (all bed patients) of the 1947 Texas City disaster Periodic blood pressure readings were taken and past and family histories were collected Ten to 13 days after the disaster cold pressor tests were performed on 54 of the still hospitalized patients

Blood pressure readings are charted against length of time after explosion and comments are made regarding neuropsychiatric renal and adrenal factors

The authors summarize their observations as showing definite although not prolonged diastolic hypertension in the majority of the victims of the Texas City diaster A follow up study is intended

Tables and Charts

RUSSEK H J Significance of vascular hyperreaction as measured by cold pressor test observation on 200 normal subjects over age of 40

Am Heart J 26 398 404 Sept 1943

Analysis of cold pressor responses in 200 merchant seamen aged 40 to 69 years with normal blood pressure

1 Incidence of hyperresponse increased with advancing age

2 Average response of both hyporeactors and hyperreactors increased with age

3 There is no support for the view that cold pressor response is characteristic for an individual through out life

4 No relationship between hyperresponse and positive family history of hypertensive cardiosvascular disease exists

5 The test is unreliable in the diagnosis of latent hypertension aossciated with congestive failure in this group

6 Hyperresponse in normal older subjects is unrelated to essential hypertension

Tables and Charts

RUSSEK H J Blood pressure study of 1 000 elderly male subjects

Am Heart J 26 11 19 July 1943 correction 26 289 Aug 1943

Th statistical analysis of the blood pressure level of 1 000 male subjects all retired seamen between the ages of 50 and 95 years of age The inference is drawn on

1 Average systolic pressure and pulse pressure increased appreciably with age whereas diastolic press ure shows little variation after the age of 65 years

2 The incidence of normal blood pressure (150 over 95) falls markedly with age Less than half of the subjects fell in this group

Tables

RUSSEK H J RATH M M ZOHMAN B L & MILLER I Influence of age on blood pressure study of 5 331 white male subjects

Am Heart J 32 468-479 Oct 1946

A statistical analysis of the blood pressure levels of 5 331 white male subjects between the ages of 40 and 95 years

The frequency of systolic hypertension ri es sharply with advancing years Approximately one third (34 4%) of the subjects 60 years and over show this type of blood pressure elevation The incidence of di astolic hypertension increases significantly up to the seventh decade rema ning relatively unchanged there after N ormal systolic blood pressure tends to increase with age The assumption that normal diastolic blood pressure increases with age is unfounded

Tables

RUSSEK H J & ZOHMAN B L Normal pressure in senescence study of 3 691 white male subjects between ages of 50 and 95 years

Geriatrics 1 113 120 March April 1946

Blood pre sure levels of 3 691 white men between the ag s of 50 and 95 years were analyzed The findings and conclusions were presented in detail They include the follow ng statements

1 The same physiologic mechanism is respon ible for the increasing ncidence of systolic hypertens on which is merely the hemodynamic reflection of normal vascular aging

2 Hypertensive disease in senescence cannot be defined solely in terms of the systolic blood pressure

3 The old dictum 100 plus the age appears to be a fair index of normal systolic blood pressure

Tables

RUSSEK H J & ZOHMAN B L Influence of age upon re ponse to cold pressor te t

Am Heart J 29 113 119 Jan 1945

The cold pressor reaction of 350 male subjects over the age of 40 years was measured A comparison was made between the response of persons with nitial pressures of the upper range of normal (pre hypertensive) and that of persons w th initial pressures in the lower range of normal (non hypertensive) It was found that

1 The response of the blood pressure to a standard st mulus of cold tends to increa e in all subjects with advancing age

2 The rising response appears to result from increasing irritability of the vasomotor centers an effect of the vascular changes associated with aging

3 Hyperreaction is more common am ng pre hypertens ve subjects than among non hypertensive persons but the differen e in frequ ncy between the respective groups becomes much less marked with advance of age

Tables

RUSSELL W O & STAHL W C Fatal poison ng from potass um thiocyanate treatment report of case and review of l terature

J A M A 119 1177 1181 Aug 8 194

9 ca es of fatal thiocyanate poisoning are presented In 6 cases the thiocyanate was taken therapeutically for hyperten on in 3 cases with su cidal intent The conclusions are that th ocyanate treatment of hyperten sion is not free from compl cations which may be fatal In pat ents showing an extraord nary toxicity from thiocyanate a blood cyanate level of from 15 to 20 mg per 100 cub c centimeters cond t ons should be regarded a critical

RUSSI S BLUMENTHAL H T & GRAY S.H Small adenomas of adrenal cortex in hypertensic diabetes
Arch.Int.Med 76 284-291 Nov Dec 1945
The investigations presented were undertaken to determine whether or not an examination of and pathological data in retrospect would show the presence of certain endocrinologic disturbances during the life of a deceased patient with small adenomas of the adrenal cortex The report contair vey of 131 cases of small adenomas of rhe adrenal cortex encountered in the course of 9 000 consec necropsies
The incidence of benign adenomas of the adrenal cortex i n 9 000 routine autopsies was found t least 1 45% The incidence was 2% in females and 1 2% in males A gradual increase in age incidenc noted up to the seventh decade although this may have been only a reflection of age distirbution as a
Hypertension and diabetes occurred five times as frequently in persons with cortical adenomas general autopsy group and both diseases were frequently present in association with such a tumor in person
Relation of adrenal hormones to diabetes and hypertension were studied and hypotheses concern possible role of the vacuoles and solid cells comprising the tumors in the production and storage of th hormones were formed
Tables Plates

SACHDEV J C Normal standards for body temperature blood pressure readings and differential le counts in the Punjab
Antiseptic Madras 45 825 828 No 12 Dec 1948
Observations were made on 200 healthy normal medical students (150 boys and 50 girls) between th of 18 and 25 years September to December 1944
1 There was observed a vast range in the figures for the body temperature
2 The differential leucocyte counts, when compared with other workers show a relatively greater centage of lymphocytes and a lesser percentage of neutrophils
The observations are presented in full tabular form

SAILE F Influence of vegetarian diet on blood pressure comparative study of monks from orders wh permit meat in diet and those which allow only vegetarian diet
Med.Klin 26 929 931 June 20 1930
The author studied the blood pressure of monks from Orders which permit a meat diet and those whi allow only a vegetarian diet He found a considerable difference between the blood pressures of these two groups The meat eating monks had a much higher average blood pressure than the other group of monks However there were a few monks eating only vegetarian diets who had hypertension

LAMA A A Y High blood pressure and its treatment by high frequency currents
J.Egyptian M A 15 707 719 Oct 1932
The author outlines the physiological aspects of high blood pressure He considers its possible etiolo follows
(1) The hereditary factor
(2) The metabolic factor protein fat carbohydrate purin salt cholesterol metabolism overeating effect of intoxication intestinal autointoxication infections of teeth and tonsils effect of disturbance of in ternal metabolism
(3) The endocrine factor hyperthyroidism disturbance of sex glands
(4) Nervous and psychic factors
He considers treatment generally and emphasizes particularly treatment by alternating current of very high frequency He writes In short we have in high frequency a means of lowering blood pressure not by producing vasodilation only but by affecting the underlying pathology regardless of the operating cause as it influences metabolism regulates the internal secretions and the sympathetic nervous system thus leading to increased elimination and a general sense of well being in the patient He describes this method of treat ment in detail and summarizes the kinds of results likely to be obtained

SALANT W NADLER J.E & BRODMAN K Circulatory reactions to ergotamine and effect upon them by adrenalectomy and blood pH
Proc.Soc.Exper.Biol & Med 25 361 364 Feb 1928
A re investigation of the effect of ergotamine showed a difference in the response of the circulation under the same experimental conditions Elevations occurred in some cats and a depression was observed in others after the same doses of ergotamine regardless of the anesthetic
The administration of adrenalin given by vein always produced a fall of blood pressure after the first or second doses of ergotamine After repeated injection of ergotamine adrenaline usually produced a slight rise in blood pressure that is a reversal of effect was absent
Charts

SALIT E P & TUTTLE W W Variability of heart rate and blood pressure in selected groups of college and high school students
J.Lab & Clin Med 29 1139 1146 Nov 1944
The purpose of this investigation was to determine which of several commonly used cardiovascular meas ures was most reliable and which of them had the greatest discriminatory power It was found
The pulse after standard exercise is a more reliable measure than the resting pulse but the resting systolic blood pressure is a more reliable measure than the systolic pressure after exercise Even when con ditions are carefully controlled an individual s heart rate and blood pressure are so variable from day to day that a number of determinations must be made of this general status
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RUSSI S BLUMENTHAL H T & GRAY S.H Small adenomas of adrenal cortex in hypertension and diabetes

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Tables

✓SCHACHT F Blood pressure in cases of congenital *polycystic kidney*
Arch Int Med 47 500 509 March 1931

74 fatal cases 25 female 49 *male average age at death 50 years* of polycystic kidneys at Mayo Clinic were studied *The* incidence of hypertension in this group was 75% The control group of 72 patients with pyelonephritis was matched *for age and sex* *The high blood* pressure incidence of the control group was 26%
Conclusions

1 The evidence at *hand indicates in the* majority of the cases of polycystic kidney that significant or persist nt hypertension is present

2 *There is* a marked thickening of walls of the arterioles and of the small arteries and *of the polycystic* kidney

3 *The high* incidence of retinal sclerosis in these cases indicated a *process associated with generalized vascular* disturbances
Tables Illustrations and Charts

SCHAFER P W Hyperactivity of vasoconstrictor nerves in relation to shock experimental and clinical study
Surg Gynec & Obst 79 163 174 Aug 1944

The paper is divided into three parts

I *An operative procedure is described which is capable of producing in the dog a persistent state of* marked vasoconstrictor hyperactivity that is altered little or none by anesthesia

II *Animals with long standing vasoconstrictor hyperactivity have been subjected to graded hemorrhage* and their responses compared with those of similar bleedings in a group of normal dogs

III Outline *of experiences with injuries and operations There is no basis for the belief that hyperact vity* of the sympatho adrenal system is of importance in causing or predisposing to shock except when patients harbored pheochromocytomas

The author reaches the following conclusions

1 Subjection of 27 dogs to aortic depressor and carotid sinus proprioceptor nerve section resulted in marked vasoconstrictor hyperactivity with hypertension without the production of shock either early or late

2 12 of these animals with long standing vasoconstrictor hyperactivity tolerated hemorrhage in approximately the same manner as did 5 normal dogs 7 of these showed no significant change of blood pressure under a general anesthetic chloralose
Tables and Charts

SCHAFER P W Xyloquinone effect on dogs with neurogenic hypertension
Proc Soc Exper Biol & Med 55 274 277 April 1944

A study of 7 adult male dogs 4 with chronic neurogenic hypertension and 3 normal controls All 7 dogs were given a subcutaneous injection of *10 cc of a 0 1% solution of xyloquinine* in *sterile* normal saline solution per kg *of body* weight Mean femoral arterial blood pressure determination were made at established intervals After the 4 hypertensive an mals had recovered *from the effect of the xyloquinine injection* they were each given a subcutaneous injection of 10 cc of a sterile normal saline solution per kg of body weight Blood pressure *determinations were made at establ shed intervals Results*

1 Xyloquinine was found to cau e a marked reduction in th blood pressure of dogs made hypertensive by proprioceptor depressor *neurotomy*

2 No sign ficant changes were obs rved in the blood pressure of normal dogs given an amount of this chem cal uff *cient to cause a marked effect* n hypert nsive dogs
Table Graphs

SCHEINKER I M Hypertensive cerebral swelling ch racterist c clinico pathologic syndrome
Ann Int Med 28 630 641 *March 1948*

The paper deals with an acute form of hypertensive brain disease Characteristic clinical and pathological *manifestations were observed in a series of 12* cases

1 The clinical picture is pre ented analyzed and discussed and the role of the cerebral swelling in the *production of the acute clinical syndrome is emphasized*

2 Gross and histologic examination disclosed findings *characteristic of cerebral swellings*

3 *The clinicopathologic* syndrome is considered a an acute form of hypertens ve brain d sease

4 The author *considers* cerebral swelling to be caused by acute vasomotor disturbances followed by vasoparalytic distention of veins *and cap llaries* and assoc ated with increased permeability of early stage of cerebral swelling
Illustrat ons

SCHEINKER I M Alterations *of cerebral* capillaries i early stage of arterial hypertension
Am J Path 24 211 221 Jan 1948

The object of the paper *is to analyze the* earl est stage of cerebral vascular changes character zed by a combination of proliferat ve and degenerative changes n cases of arterial hypertension with special emphasis upon those seen *in the cerebral cap llar es* This study is based on 6 fatal ases of arterial hypertension in which deaths occurred from 1 to 2 years after the onset of tl e d ease Two illustrative cases are presented in detail No attempt *is made to d scr be the* findings in detail part from the 2 case histories

In all *cases* of the present study death *occurred* from 1 to 2 years after onset of clinical manif stations of the d sease No *direct parallel* sm between the cerebral vascular changes and those of the kidneys could be established

SCHEINKER I M Hypertensive d *sease* of brain
Arch Path 36 289 296 Sept 1943

The characteristic his *ologic* features of *hypertensive encephalopathy observed in 25 cases are reported* Typical vascular alterations confined to the arteriol s and capillaries were observed in all cases and consisted *of hyaline* degenerat on and fibrot c *thickening* of the walls associated with narrowing or obliteration of the lumens These arter olar changes *should* be cons dered as a special form of arteriolopathy typical of hypertension and diffrent from *those* found in the u ual *case of arteriosel rosis*

Changes in the parenchyma of the brain consisted of diffusely scattered circumscribed small foci of old and recent softening perivascular hemorrhage massive hemorrhage and diffuse or localized edema of the brain
Illustrations

SCHELCHT H Zur Kochsalzfrage in der Behandlung des essentiellen Hochdrucks
Arch f Kreislauf XV 120 1949
Patients with essential hypertension were treated with a low salt diet instead of a diet completely free of salt With only a few exceptions the results obtained were the same with both diets
Tables

SCHELLONG F Clinical significance of diastolic blood pressure following bodily exertion especially in vasoneuroses and hypertonia of young persons
Klin Wchnschr 9 1340 1343 July 19 1930
It is advisable to consider the diastolic blood pressure under working conditions since it discloses information which cannot be gained by just measuring the systolic blood pressure and pulse frequency The diastolic blood pressure shows an abnormal decrease in the majority of youthful vaso neurosis with or without hypertonia which can be explained through the abnormal vaso dilation during physical work and the subjective heart palpitations The lowering of the diastolic blood pressure is independent of the heart frequency
Tables

SCHIMMENTI J M Cause of essential hypertension and its prevention by psychotherapy (emotional factors)
M Times New York 67 413-418 Sept 1939
A theory of psychogenic basis of hypertension is presented centering around repression of ambitions (especially sexual) because of fear of uncontrollable aggressive tendencies Anxiety ensues and somatic involvement comes about due to unrelieved states of psychomotor tension The pathogenesis involves both the sympathetic nervous system and the endocrine system (especially the adrenals) Clinical signs are usually evident Course of development may vary from person to person but seems to display most frequently the personality elements of narcissism and masochism variously manifested The paper concludes with attempt to distinguish emotional from true hypertensives and to facilitate clinical differentiations by further subdivision of each classification Remarks are made as to the therapy of choice in each instance

SCHISLER E High blood pressure as symptom and when it may be called malignant
J Missouri M A 32 56 59 Feb 1935
The author discusses the different types of hypertension in persons
(1) Digestive disorders (2) Dyspnea (3) Heart lesions (4) Myocardial changes
The results of the sympathectomy are discussed

SCHMIDT R Ueber das konstitutionelle und symptomatische Milieu des essentiellen Hochdruckes
Med Klin Berl xix 1479 1483 1923
The author discusses various factors influencing blood pressure
(1) Hyperglycemia (2) Glycosuria (3) Abnormal metabolism (4) Constitutional anomalies

SCHMIDTMANN M Cholesterin und Blutdruck
Verh Deut path Ges 20 118 120 1925
The author believes that because of its colloidal nature cholesterin intensifies blood pressure increasing substances and causes a long lasting blood pressure increase Experimental blood pressure increases performed on rabbits are different from chronic blood pressure increases in humans inasmuch as there is an absence of cardiac hypertrophy and an ultimate decrease of the blood pressure A chronic blood pressure increase and cardiac enlargement in the rabbit could only be achieved with the injection of melanin
Illustrations

SCHNEIDER E C & CLARKE R W Muscular exercise under low barometric pressure pulse rate arterial blood pressure and oxygen pulse
Am J Physiol 88 633 649 May 1929
The purpose of this paper is to consider the damages in the circulatory reaction of physical exertion brought about by reductions in barometric pressure down to 290 mm This pressure is approximately equivalent to that of an altitude of 25 000 feet
A reduction of barometric pressure does not influence the systolic arterial blood pressure of all men in the same way This blood pressure usually rises higher and more rapidly with a given load of work the greater the reduction in barometric pressure
When a reduction of barometric pressure influences the diastolic arterial blood pressure of work it causes a fall in this pressure

SCHNEIDER E C CLARKE R W & RING G C Influence of physical training on basal respiratory exchange pulse rate and arterial blood pressure
Am J Physiol 81 255 263 July 1927
The purpose of the study was to investigate the relation of basal metabolism to pulse frequency and to attempt to follow step by step the basal changes in the gaseous metabolism pulse rate and arterial blood pressure during a period of regular physical training and during an after period when no exercise is taken and to determine how soon and to what extent regular exercise may change each Observations were made on one athlete and on four men irregular as regards exercise who had led sedentary lives Results
1 During the period of training the basal metabolism declined in 3 and was unchanged in 2 subjects In the post training period it returned to the pre training rate
2 Basal minute volume and frequency of breathing were not affected by training

3 Training slowed the basal and early morning standing posture pulse rates but did not affect the early morning arterial blood pressure
Tables

SCHNEIDER E C & COLLINS R Responses of blood pressure to exercise
Am.J.Physiol 121 574 579 March 1938
A comparison of the Eyster Hocker and White methods of determining venous pressure shows that each gives the same account of the changes that result from physical exertion
The venous pressure rises and then remains up during work on the bycicle ergometer In some individuals the pressure begins to rise almost at once reaches a maximum within 2 to 4 minutes and maintains a fairly steady state In others after some delay a slow rise begins reaches a maximum within 10 to 12 minutes and then remains fairly constant until work is terminated When the load of work is too heavy the venous pressure rises steadily until fatigue ensues There is a rough linear relationship between venous pressure and load This may be observed by the deep breathing of exertion since during expiration the venous pressure may be as much as 2 cm H_2O higher than during inspiration
Graphs

SCHNEIDER E C & TRUESDELL D A statistical study of the pulse rate and the arterial blood pressures in recumbency standing and after a standard exercise
Am.J Physiol 61 429-474 1922 also Air Serv.Inform Circ 5 61 81 1923 1924
The authors discuss the following aspects of their statistical study
1 Pulse rate (a) in recumbency (b) the standing posture (c) the amount of postural pulse rate change (d) predictable postural change (e) the pulse frequency after phys cal exercise
2 Systolic pressure (a) the postural pressures (b) postural change in systolic pressure (c) after a standard exercise
3 The diastolic pressure (a) the postural pressures (b) postural changes in diastolic pressures (c) after standard exercise
4 Pulse pressure
5 Postural correlations
6 Pulse rate and pulse pressure
7 Pulse pressure and systolic pressure
8 Pulse pressure and diastolic pressure
9 The coefficients of correlation for exercise changes
Tables Graphs

SCHROEDER H.A Renal failure associated with low extracellular sodium chloride The Low Salt Syndrome
J.A.M.A 141 117 1949
A syndrome of renal failure has been de cribed which results from
(a) Retention of water and dilut on of electrolytes
(b) Ex es ive depletion of body salt usually by the use of mercurial diuretics
Somet me this cond tion can be reversed by the intravenou injection of hyperton c sodium chloride solution n the amount suff cient to re tore electrolyte water equilibr um This syndrome is no un ommonly seen in congestive circulatory failure

SCHROEDER H.A Low salt diets and arterial hypertension
Am.J.Med 4 578 587 April 1948
The dietary management of arterial hypertension by the u e of diets poor insod um chloride is discussed The possible role of the adrenal cortex in arterial hypertension and its relation to disturbances in salt balance is considered in the light of experimental and clinical evidence While many subjects do respond favorably to rigid restriction o salt by lowering of blood pressure p ychotherapeutic influences may play a large part in this change in some It is po sible that patients who do respond favorably to th s d et exh bit a d fferent type of hyperten ion in which the adrenal cortex s overactive No spec al advantage has been demonstrated in the use of a diet exclusively composed of rice fruit juices and vitamins as compared with a normal d et with a similar content of salt and there are several disadvantages to that

SCHROEDER H.A FUTCHER P.H & GOLDMAN M L The eff cts of the rice d t upon the blood pressure of hypertensive individuals
Ann.Int.M 30 713 732 o 4 April 1949
Seven patients selected at random suffering from arterial hypertension of varying degrees of severity were treated with a diet containing unsalt d rice fru t j ices and vitamins aft r adequate control observations were made Results
1 Diastolic blood pressures were somewhat lower in 3 while on the d et but changes were not striking Pressures remained essentially unchanged in the other 4
2 Addition of sodium chloride in 2 cases and substitution of normal diet in 3 cases d d not consistently reverse effects of the rice diet
3 Changes n blood pressure occurring n other patients after restriction of sodiu n chloride alone were of similar m gnitude to those obs rved with the use of rice di t S m lar change have occasionally occurred following l osp talization alone w thout alterations n diet
Tables and Charts are presented together with 12 case histories

✓SCHROEDER H A & GOLDMAN M.L Test for the presence of the hypertensive diencephalic syndrome using histamine

Am.J.Med 6 162 167 No 2 Feb 1949

A test using the intradermal injection of 0 25 mg of histamine has been described which appears to produce attacks typical of the hypertensive diencephalic syndrome It also reproduces in some hypertensive patients other symptoms which they complain about Few normotensive patients respond to histamine in this manner It is suggested therefore that histamine-like substances may be concerned in the causation of some of the symptoms common to many hypertensive patients especially those exhibiting the neurogenic type Illustrations

SCHROEDER H.A GOLDMAN M L (et al) Low sodium chloride diets in hypertension

J.Am.M.Ass 140 458-463 No 5 June 4 1949

22 patients with hypertension were placed on diets low in sodium chloride in an attempt to evaluate the effects of such diets on the levels of their blood pressures In 13 patients most of whom exhibited the disease in its severer stages the response to salt restriction was poor 3 additional patients with milder forms of the disease manifested a lower level of diastolic pressure in 1 of these the change which occurred was not reversed by the addition of salt to the diet

A group of 6 female patients was described who exhibited obesity of a characteristic distribution and some but not all of the signs of Cushing s syndrome These levels of blood pressure appeared to be directly related to the intake of sodium chloride being lower when salt was restricted and higher when it was added Tables

✓SCHROEDER H.A & STEELE J.M Essential hypertension association of hypertension with organic renal disease

Arch.Int.Med 68 261 293 Aug 1941

250 cases of so called essential hypertension were studied in order to ascertain the presence of organic renal disease 178 were especially studied as regards the genito urinary tract Evidence of renal disease of a nature not usually considered to be dependent on hypertension was found in 113 cases

Organic renal disease is a common occurrence in the case of so called essential hypertension Examination of the genital urinary tract for abnormalities is an important part of the study of cases of hypertension A history of renal disease often antedates the onset of arterial hypertension even when no abnormality can be found The authors consider that there is no justification for regarding the condition in these cases as essential hypertension but as a different disease

Tables

SCHULZE V.E & SCHWAB E.H Arteriolar hypertension in American Negro

Am.Heart J 11 66 74 Jan 1936

1 Although arteriolar hypertension is practically unknown among the native African Negro the disease is unusually prevalent in their descendants living in the U.S the incidence being greater than that of the American white rice The theory of biological inheritance of primary hypertension is therefore inadequate in this connection

2 The possible etiological roles played by climate diet infections and the menopausa in the pathogenesis of hypertension in the American Negro are discussed

3 On the basis of the neurogenic concept of the development of hypertension a theory is elaborated to explain the origin of the disease in the American Negro and to account for its high incidence

4 The importance of the environment as a causative factor is emphasized

SCHWARTZ J Clinic study of blood pressure in relation to body weight

M.Rec 152 102 Aug 7 1940 128 Aug 21 1940

The material presented was gathered from 5 832 office patients over a period of 10 years

The author developed an analysis along the following line

1 Study of body weight including relation of sex to body weight
2 Analysis of normal and abnormal blood pressures
3 Relationship of body weight and blood pressure
4 Relation of sex to blood pressure with constant body weight
5 Endocrine disturbances during pregnancy
6 Effect of reduction of body weight on blood pressure

Tables and Charts

SCHWARTZ L.A Analyzed case of essential hypertension

Psychosom.Med 2 468-486 Oct 1940

The analysis of this case of essential hypertension suggests that the patient s hypertension may be connected with long-continued repressed hostility and rage with the consequent production of constant conflict which the individual can neither escape nor solve

SCHWARTZ R Blood pressure and pulse rate in prison psychosis

J.Nerv & Ment.Dis 87 556 558 May 1938

States of fear anxiety and apprehension in prison psychosis are not accompanied by an increase of pulse rate and blood pressure 179 cases of dementia praecox have been compared with 213 cases of prison psychosis in regard to blood pressure and pulse rate and the average values were found to be the same

✓SCOTT R.A.M Weight and blood pressure
Brit M.J 1 119. No 4563 June 19 1948
Up to the age of 40 years the men examined in 1946 1947 were on the average heavier than men of the same age in 1930 1939 From 41 to 55 years there is little difference between the two periods
The men between 21 and 35 years who have been in the armed forces are heavier than those who have not
The average diastolic pressures of all 1946 1947 age groups are above those of 1938 1939 the maximum difference being 12 mm at 41 to 45 years
The average systolic pressure of all 1946 1947 age groups are above those of 1938 1939 the maximum difference being 27 mm at 46 to 50 years
Tables

SCOTT R W SEECOF D P & HILL A A Arteriolar lesions of skeletal muscle
Tr A.Am Physicians 48 283-288 1933
A study of arterioles in sections of skeletal muscle taken from 426 cases Age range covered the complete life span Included in this material was a series of cases of diffuse vascular disease with hypertension all dying at age of 46 years and under which were studied clinically Observations were made with regard to such factors as age race sex and blood pressure Clinical conclusions were as follows
1 Arteriolar lesions in skeletal muscle are demonstrable in a high percentage of individuals dying under 46 years of diffuse vascular disease with hypertension
2 Severity of muscular lesion usually parallels severity of arteriolar lesion in kidney
3 Arteriolar lesion in biopsy specimen of voluntary muscle agrees closely in severity with that found in postmortem specimen of same muscle
Tables

SELKURT E.E HALL P W & SPENCER M P Response of renal blood flow and clearance to graded partial obstruction of the renal vein
Am.J Physiol 157 40 46 No 1 April 1949
When renal venous pressure is elevated from 7 5 to 22 4 mm Hg by partial venous obstruction d rect renal blood flow and renal clearances decrease by an average of 15% This decrease in blood flow and clearances can be explained almost entirely by the decrease in the pressure grad ent across the venal vascular circuit resulting from increase venous pressure since arterial pressure remains essentially constant Thus the A V pressure difference decreases by an average of 11 5%
Tables

SELMAN J.J The management of hypertension by restriction of salt
Ohio M.J Columbus xix 852 860 1923
Ten case histories of hypertension treated by restriction of salt are reported Of these 10 cases 6 obtained a reduction to normal Of these 6 cases there appeared to be in 3 a definite relationsh p between the ingestion of moderate amounts of salt and the return to h gh blood pressure with the consequent symptoms of headache and d zzine s
Of the remain ng 4 cases 1 was not influenced in any way by salt re tr ction the other 2 susta ned some drop n blood pressure but the length of the observation period was too short to ascerta n whether it could be reduced to normal and 1 sustained a temporary drop w th rel ef of symptoms but later died
The author concludes Adequate restr ction carried on for a suff c ent length of t me will lower the blood pressure of a gre t major ty of ca e of hyp rtension and even those whose pressures are not brought to normal are rid of their distre sing symptoms and the danger of apopl xy
Table

✓SELYE HANS The general adaptation yndrome an l the d seases of adaptation
Reprinted Textl ook of Endocrinology Pub by Acta Endocrinologica Montreal Canada 194
A summary account of the main features of the so called general a laptation syndrome wh ch is the author s term for the variable t at essentially similar processe of bod ly response to stress insult shock etc While the various phases of daptation are norm l in the sense that they enable the body to cope successfully with the strains of existence they may overcompensate or d tour at any point often with patholog c results The occurrence of su h abnormal development may co ncide with structural or funct onal weaknesse The central mechan sms in the genera adaptation syndrome are endocrine chiefly the hypophy is and adrenal.

SELYE H The general adaptat on syndrome and the d seases of ad ptation
Jour Clin.Endocrinology VI 117 194
Thi is a lengthy discuss on of the general adaptation syndrome wh ch the author defines as The un of all non specific systemic reaction of the body which ensue upon long continued exposure to stress
D scussed are
1 The history of the general adaptat on syndrome
2 The alarming stimuli
3 Course of general adaptat n syndrome
4 Factors influe c ng the course of the adaptat on syndrom
5 Theoretic nterpretation of the adaptation syndrom
6 Clinical implications of the general adaptation syndrome
Illustrations Bibliography

SELYE H & PENTZ E L Pathogenetic correlations between periarteritis nodosa renal hypertension and rheumatic lesions (role of adrenal cortex)

Canad.M A J 49 264 272 Oct 1943

The purpose of this account is to report upon experiments which revealed close pathogenetical relation ships between periarteritis nodosa nephrosclerosis arterial hypertension and rheumatic lesions

Experiments on the rat indicate that the toxic effect of chronic desoxycorticosterone acetate overdosage is considerably increased by unilateral nephrectomy

Severe overdosage with this corticoid produces in the rat morphological lesions similar to those seen in periarteritis nodosa malignant hypertension and rheumatic fever

It has been emphasized that in the human the development of these diseases is usually preceded by in fections exposure to cold or other damaging agents and that in animals similar changes appear in the course of adaptation to cold and other noxious stimuli Concurrently during adaptation the adrenal cortex is increased in size and produces excessive amounts of corticoids

Hence the authors believe that the above mentioned diseases are at least partly caused by an abnor mal (probably excessive) adaptive response of the adrenal cortex and represent diseases of adaptation

SELYE HANS & STONE HELEN Influence of the diet upon the nephrosclerosis periarteritis nodosa and cardiac lesions produced by the endocrine kidney

Endocrinology 43 21 29 No 1 July 1948

An experimental study of female albino rats which indicates that the production of hypertension by the endocrine kidney technique and its morphologic accompaniments (nephrosclerosis cardiac hypertrophy myocarditis periarteritis nodosa) remain uninfluenced by the protein and sodium chloride concentration of the diet

The authors point out that these findings are in contrast with the marked dependence upon sodium of the production of these same lesions by desoxycorticosterone or anterior pituitary extracts High protein diets do not influence the production of hypertensive disease by desoxycorticosterone but they markedly increase this same effect of crude anterior pituitary extracts

The influence of protein and sodium intake is further discussed in detail

Tables

✓ SHAPIRO S Essential hypertension of more than 25 years duration with no renal arteriolar changes at autopsy case

J Lab & Clin.Med 24 60 64 Oct 1938

An autopsy of a patient with essential hypertension showed that the kidneys on gross and microscopic section were free of an abnormality characteristic of hypertension There is no proof in this case that the arteriolar sclerosis which constantly accompanies essential hypertension is the result of the high blood press ure The findings indicate that essential hypertension may arise and continue independently of any renal im pairment

SHATTUCK G C Possible significance of low pressures observed in Guatemalans and in Yucatecans

Am.J Trop.Med 17 513 537 July 1937

Systolic blood pressures have been recorded for the two races of Guatemala the mixed Spanish Indian and the pure Indian The data have been compared with normal standards for North Americans at home with similar data from Yucatecans and with blood pressure levels from various other races

It was found that Guatemalan systolic blood pressure levels average 10 mm lower than those of North Americans

Tables

SHELBURNE S A BLAIN D & O HARE J P Spinal fluid in hypertension

J Clin Investigation 11 489 496 May 1932

A study of 50 cases of hypertensive disease showed 21 to have increased intracranial pressure Papille dema was almost always associated with increased intracranial pressure Papilledema and increased intra cranial pressure occur more frequently with renal failure but are also found where renal function is normal Headache is more frequent in the presence of increased intracranial pressure and papilledema but occurs without either one The results indicate that lumbar drainage for relief of headache is often not justified In creased intracranial pressure seems more often associated with high diastolic blood pressure but the authors believe that both are probably the result of some common factor and neither is caused by the other The course of increased intracranial pressure is not accounted for in 50% of the cases which have neither renal insuffi ciency nor increased venous pressures

Tables

SHILLING C W HAWKINS J A & HANSEN R A Influence of increased barometric pressure on pulse rate and arterial pressure

U.S.Nav.Med.Bull 34 39 47 Jan 1936

A study of the pulse blood pressure and pulse pressure in reclining and standing positions and after ex ercise both at atmospheric pressure and under increased air pressure has been made

The pulse rate blood pressure and pulse pressure are decreased during exposure to increased air press ure The cardiac output is also decreased by exposure to increased air pressure

SHURE N.M   Pyelonephritis and hypertension   study of their relation in 11 898 necropsies
Arch.Int Med 70 284 292 Aug 1942

The incidence of hypertension in cases with pyelonephritis was studied from 11 898 autopsies performed over a 10 year period In these the incidence was 44 4% as compared with 34 9% in a control group selected at random

An analysis revealed this greater incidence apparently occurred in cases with bilateral pyelonephritis especially in the male sex and was most marked in men over 40 years of age   Relative absence of high blood pressure in patients with unilateral pyelonephritis was noted

Incidence of hypertension increased with age and was parallel to the incidence of marked renal vascular damage In a small group of patients with polycystic kidney horse shoe kidney and uncomplicated nephrolithiasis the incidence of hypertension was 46 15 64 7 and 53 25% respectively

Tables

SIMEONE F A & VAVOUDES H   The early effect of lumbodorsal sympathectomy upon the response to insulin in man
Surgery 24 326 341 No 1 July 1948

The authors thought it possible that the responsiveness to insulin and to the ensuing hypoglycemia might be used as a test for completeness of denervation of the adrenal glands and for regeneration of sympathetic nerves into once denervated adrenal glands   Such information would be of great use in the evaluation of the causes for failures *in the treatment of hypertension by sympathectomy*

Patients of both sexes were observed   those with any evidence of diabetes mellitus were excluded   *Age* range was 15 to 58 years average age 41 years

Results are presented with respect to

(1) The fasting blood sugar level in patients with hypertension before and after sympathectomy

(2) Reaction of blood sugar to intravenous insulin in patients with hypertension before sympathectomy

(3) Reaction of blood sugar to intravenous insulin between stages of sympathectomy and after bilateral lumbodorsal sympathectomy

(4) Clinical effects of intravenous insulin before and after sympathectomy

Conclusions   Shortly after lumbodrosal sympathectomy for hypertension the resistance of patients to insulin is increased and the ability to recover from hypoglycemia is not impaired

The significance of these findings is discussed in relation to the metabolic changes in the general adaptation syndrome and to the possible usefulness of the insulin tolerance test in the problems connected with the treatment of hypertension by lumbodorsal sympathectomy

Tables and Charts

SIMISTER T.H & CONKLIN R.E   Role of pressoreceptors in regulation in rabbit
Am.J Physiol 138 391 39   Feb 1943

Since no observations had been made on the rabbit on the role of the splanchnic area in connection with other refl xogenic zones *it was decided to study the effect of elimination of these sources of afferent impulses* during tipping experiments in the foot down position (hind feet down head up) where compensation for the action of gravity might be expected

The authors summarize the result as follows :   Brief tipping experiments have been d ne on 94 [illegible] with progressive elimination of cources of afferent impulses causing reflex circulatory compensation [illegible] been shown that the rabb t *is still able to compensate to some extent for the effect of gravity* when [illegible] *of vagi* aortic nerves carotid sinuses and splanchnic nerves   Some other reflexogenic sources [illegible] for the compensation must exist

Tables Photographic illustrations

SIMONDS J P   Renal pathologic changes *in hypertension and glomerulonephritis* [illegible]
J A.M A 120 89 93 Sept 12 1942

Because of their peculiar structural pattern the functional activity of the kidneys [illegible] physical or mechanical factors   the hydrostatic pressure of the blood in the gl [illegible] osmotic pressure of the plasma protein

The changes in the afferent arteries *and in the glomeruli* that result in renal [illegible] interference with the blood *supply* to the two systems of capillarie in the ki in ys

As long as a sufficient amount of *blood* under an adeq iate filtration pressure [illegible] number of functioning glomeruli *the kidneys* will cont nue to function efficiently [illegible] *ges that* induce renal insuffic ency are known we are still igr orant of the causes [illegible] changes

SKELTON RUTH   On the *relation* of pulse pressure to the output of the heart
J Phys ol Lond   1v 31   3 1 1921 1922

It has been sugge *ted that the* pul e pressure migl t be taken as a measure [illegible] *that the* pulse pressure t mes pulse rate times some constant factor varying [illegible] m ght be equal to the output per m nute *or minute* volume of the heart

The difficulties that arise n ass m g a r umerical proport on between [illegible] ular output are outl ned and an *experimental* investigation of the whole question [illegible] were performed on dogs   *The results* cl arly show that the product of pulse [illegible] value as a measure of heart output   In the experiment the relat on between [illegible] ween 6 5 1 and 47 1   A method of calculating output which can give such widely varying [illegible] of no use in cl nical pra t ce

SMITH E.S & LIGGETT H.S Therapeutic management of arterial hypertension in ambulatory cases
Tr.Am Therap.Soc (1927) 28 113 124 1928

The authors deal briefly with the known pressor bodies in arterial hypertension and then present the re sults of an investigation undertaken to ascertain whether or not essential arterial hypertension is compensat ory or conservative The results of a clinical study of three separate groups of cases (total of 273 hospital patients) are described Eight case reports with accompanying charts illustrating the results of treatment in the ambulatory state are presented

Various therapeutic measures are evaluated and discussed and recommendations made

The article is followed by a discussion

Charts and Tables

✓SMITH H W Hypertension and urologic disease
Am.J.Med 4 724-743 May 1948

The cause of essential hypertension remains unknown It is not yet demonstrated that the human disease has its origin in either pathologic or functional disturbances of the renal circulation Although sympathectomy lowers the blood pressure in some instances it is not yet demonstrated that this changes the temporal pro gress of the disease

Pathologically elevated blood pressure is well known to be labile in many persons and sus eptible to re duction spontaneously and by prolonged bed rest psychotherapy and many non specific agents

Statistical data on blood pressure among the general population indicate that the incidence of essential hypertension quite low before 20 increases rapidly thereafter until at the age of 40 years approximately 25% of the general population is affected this figure increasing to 60% or more in elderly persons

There is no convincing evidence that this already high incidence of hypertension is increased by urologic disease or that the incidence of urologic disease is any greater among hypertensives than among normotensives

The advisability of nephrectomy must rest upon conservative and recognized surgical indicators and not *upon the hope of reducing blood pressure*

Tables

SMITH H W GODDRING W & CHASIS H Role of kidney in essential hypertension
Bull.N Y Acad.Med 19 449-460 July 1943

An appraisal and criticism of teh results of studies to date which have presented evidence for or against the belief that the kidneys are primarily responsible for the genesis of essential hypertension

The authors conclude It seems to us therefore that under the surgical and pathological evidence as under the physiological evidence the theory of primary renal origin is unproved This is not to argue however that if the genesis is complex the kidney may not play an intermediary role

Tables

SMITHWICK R.H Surgical treatment of hypertension
Am.J.Med 4 744 759 No 5 May 1948

This is a discussion of three surgical measures for hypertensive patients

1 Unilateral nephrectomy which has a modified course of disorder in some patients though the outcome is difficult or impossible to predict

2 Removal of adrenal tumors which are physiologically active has proved helpful where paroxysmal hypertension is present a diagnosis can be made with considerable certainty In general active adrenal tumors are rare causes of hypertension almost always proving to be pheochromocytomas

3 Surgical intervention upon the sympathetic nervous system appears to offer many patients a reason able chance for improvement at a minimal risk It appears to slow the progress of the disorder In about 60% unselected patients followed from 1 to 5 or more years a lessening of severity or cardio vascular dam age judged by favorable changes in the retinal cardiac and renal areas was observed It seems that part of the effect of the operation is due to a modification of reflex vasomotor fluctuations in blood pressure

Extensive sympathectomy has been utilized largely in patients who have reached the stage of continued hypertension with evidence of cardiovascular damage varying from slight to marked

Experience to date indicates that at least 30% of these patients are clearly unsuited for this form of treat ment If these patients are excluded the early results in the remaining subjects are considerably better

A follow up period of 5 years or more is needed to establish the circumstances under which splanchnic ectomy is most likely to be worthwhile Patients with the best chance for good results are those in younger age groups

Occasionally patients develop evidence of cardio vascular damage in the stage of intermittent hyper tension In these it seems proper to suggest surgical intervention

Thorough denervation of the splanchnic bed by a technique which permits exposure of the kidneys and adrenal glands appears to be the most desirable procedure for most patients In some total or subtotal thor acic sympathectomy may prove to be preferable

Tables and Charts

SMITHWICK R.H Surgical treatment of continued hypertension suggestions about selection of cases for this form of therapy (lumbodorsal splanchnicectomy)
J.M.Soc.New Jersey 44 304 316 Aug 1947

Bilateral lumbodorsal splanchnicectomy was performed on 439 unselected patients for the relief of con tinued hypertension The patients were followed from 1 to 5 or more years Demonstrable evidence of cardio vascular damage was present in 97% of the cases

The majority were improved as judged both by a favorable effect upon blood pressure levels as well as by a lessening in the severity of the cardiovascular damage

There is a review of all the available pre operative data and certain suggestions are made regarding the selection of cases for surgical treatment It is felt that if these suggestions are followed closely the great majority of so-called selected cases should benefit by this form of treatment

The improved results in the selected cases are due largely to the exclusion of the great majority of the cases who have died soon after operation or who are living and not improved

Among the excluded cases are a few that have done well Every attempt should be made to find a way of differentiating these from other similar cases which have almost invariably done poorly

The author suggests that in general it seems inadvisable to recommend operation under circumstances when chances for improvement are slight and chances for failure great

The effect of removing the vasoconstrictor nerves to a large portion of the visceral vascular bed suggests that the sympathetic nervous system plays an active and important role in the development and natural course of the majority of cases of hypertension and hypertensive cardiovascular disease in man
Tables and Charts

SMITHWICK, R.H Surgery of autonomic nervous system medical progress
New England J.Med 236 662 669 May 1 1947

The author outlines the rationale behind the treatment of hypertension and hypertensive cardiovascular disease by operation on the sympathetic division of the autonomic nervous system and points out that the discussion concerning the nature of the effects of such operations has thus far centered about objective evid ence i e changes in blood pressure etc

The extent of the operation as performed by various surgeons is considered with comments concerning the author s own technique and the reasons for its employment

Results of surgical treatment as reported in the literature are discussed and the author reviews the criteria to be taken into consideration in the selection of patients for surgery

The author points out that the surgical treatment of hypertension offers a unique opportunity to obtain factual data concerning the pathologic physiology of the hypertensive state and may show the way to a clearer understanding of the causative mechanism the development of accurate methods for selecting patients for surgical treatment and the indication of productive lines for future investigative work

Finally the author discusses operations on the parasympathetic division of the autonomic nervous sy tem and reviews the rationale for vagotomy for peptic ulcer the surgical technique involved and the selection of cases for surgery

SMITHWICK R.H Surgical treatment of hypertension circumstances under which lumbodrosal splanchnic ectomy appears to be inadvisable
New York State J.Med 44 2693 2700 Dec 15 1944

Certain suggestions are made by the author regard ng the selection of hypertensive pat ents for surgical treatment These are based on a review of the data available concerning 215 patients who had been treated by lumbodorsal sympathectomy These suggestions are directed primarily at reducing the mortality and the poorer results which have been obtained
Charts

SMITHWICK R.H Technic for splanchnic resection preliminary report
Surgery 7 1 8 Jan 1940

The author bel eves that sympathectomy yields its best re ults when the operat on is adequat ly com plete prepangl onic in type and extensive er ough to guard against future regeneration of nterrupted path ways Compl te or nearly complete splanchnic resection in man should result in a characteristic change in blood pre sure n every pat ent with hypertension

Removal of v rt ally the ent re great splanchnic nerve with division of all of its aort c branches coupled with interruption of the commun cating veins of D9 10 11 12 and L1 together with excision of the sympathetic trunk over this area is the minimal procedure which the author has found consistently to produce a blood pressure change which is characteristic of a thorough interrupt on of the nerve supply to the splanchnic bed
Illustrations

SNOW M L.H A Vascular relaxation of the splanchnic area and its effects upon the organs involved
Phys Ther 44 131 142 1926

Va cular d latation depends on va omotor tonal insufficiency Cau es are acquired or congenital In general the causes are those affect ng (A) Peripheral res stance (B) Heart energy

There s ntra abdominal congestion preceded by splanchnic vasomotor insufficiency Splanchnic d la tation is often found in splanchnoptosis

SOLANDT D Y NASSIM R & COWAN C.R Hypertensive effect of blood from hypertensive dogs
Lancet 1 873 874 May 11 1940

The blood of dogs having hypertension produced by the technique of Goldblatt or Greenwood conta ns a substance which will produce transient hypert nsion in another dog if the recipient animal is deprived of its kidneys The normal kidneys in some way prevent the hypert nsive substanc from exerting its pressor effect

SOLLMANN T & BARLOW O W The effect of ep nephrine and prolonged accelerator stimulation on the re sponse of the frog heart to stimulation of the c rdio inhibitory nerve
J Pharm Exp Ther 28 159 164 1926

The respons vere s of the heart to nhibitory stimulation of the vagus is increased during the perfusion of epinephrine An entirely analogous ncrease of response is produced by continuous stimulat on of th acceler ator nerves so that it is not a specific effect of epinephrine for instance on the vagus endings

The inhibitory response becomes greater and greater the longer the ep nephrine perfusion or accelerator stimulat on is continued and recover qu te slowly aft r these are discontinued The increased response is therefore an indirect rather than a direct result of the augmentation since the latter reaches its maximum very promptly and ceases at once with the end of st mulation

The increased response is not due to injury of the muscle by over stimulation at least in so f r as this is reflected by the systol c tone for the two curves do not corr spond

SOLOMON A P & FENTRESS T L Galvanic skin reflex and blood pressure reactions in psychoneuroses
J Nerv & Ment Dis 80 163 182 Aug 1934

A study of 67 psycho neurotic individuals with a small control group of so-called normals

The authors summarize their results as follows We believe that we have presented data which tend to support the belief that there are correlations between a large amount of bound energy a high resistance and high absolute galvanic reactions between a large amount of free energy low resistance with low absolute galvanic reaction and that the size of the galvanic reaction in ohms at any given resistance level is one of the measures of stability of the binding of energy

Tables

SOUTHWORTH, J L & RUSSEK H I Technic for testing hypertensive patients preoperatively (by means of continuous caudal analgesia and lumbar peridural anesthesia)
Am Surg 125 119-125 Jan 1947

The experimenters used caudal analgesia and lumbar peridural anesthesia by the continuous techniques to study patients with hypertension later operated upon by the Smithwick procedure in order to predict the result of sympathectomy In a small group of patients there seemed to be a good correlation between these tests and the immediate post operative recumbent blood pressure The techniques of administering these anesthetics is described From a theoretic standpoint lumbar peridural anesthesia is a better test It more readily reproduces the denervation achieved in thoracolumbar sympathectomy The authors use high caudal block whenever pos ible due to greater technical difficulty of administering lumbar peridural anesthesia

SPARK C Relation between basophilic invasion of neurohypophysis and hypertensive disorders
Arch Path 19 473 501 April 1935

Pituitary glands from 70 persons with essential hypertension 11 persons with evidence of antecedent hypertension and 108 with various nonhypertensive diseases were studied histologically

The following conclusions are presented by the author

1 Those (pituitary glands) from persons with essential hypertension showed no greater degree of basophilic invasion of pars nervosa than those from non hypertensive ones when groups of approximately the same ages were compared

2 The invasion of the posterior lobe by basophils is in some way related to the aging of the organism and possibly to some sex factor as well Immediate stimulating factors are unknown

3 There is no morphologic evidence to support the hypothesis that essential hypertension and eclampsia gravidarum are due to hyperactivation of the neurohypophysis by basophilic cells

Detailed tables and illustrations

SPINGARN C L & HITZIG W M Orthostatic circulatory insufficiency occurrence in tabes dorsalis and Addison s disaease
Arch Int Med 69 23-40 Jan 1942

Orthostatic circulatory insufficiency marked by falling blood pressure and by vertigo on assumption of an erect position was observed in 3 patients with tabes dorsalis and in one with Addison s disease The relation of this abnormality to nervous and to endocrine disease is reviewed briefly Carotid sinus hypersensitivity was an unusual feature of 2 of the reported cases The results of the treatment of 3 patients exhibiting postural circulatory difficulties 1 with Addison s disease and 2 without clinical adrenal insufficiency by means of desoxy corticosterone acetate are presented

SPITZER H Essential hypertension on the island of Curacao
Ann West M & S 3 133 135 No 4 April 1949

An analysis of the blood pressure readings of more than 1 000 members of the native population of Curacao revealed a high incidence of essential hypertension even among children The estimation of blood volume in more than 100 cases showed a deficit in blood volume increasing with increase in blood pressure The year long profuse sweating in children such as occurs in tropical climates may produce chronic dehydration accompanied by reduced blood volume Chronic reduction of blood volume operative during that sensitive period of youth may result in essential hypertension

STALKER H Unusual hypertension case of 10 years duration
J Michigan M Soc 40 105 107

The case of extreme systolic hypertension in a woman which was first diagnosed 2 years before menopause has progressed for 11 years most of that time under observation with very few sings of heart failure or retinal changes and good kidney function She has shown no signs of hyperthyroidism large vessel sclerosis coarctation of the aorta or arteriovenous communication and psychically is a quiet rather phlegmatic individual Hence the diagnosis must primarily be essential hypertension

STANLEY L Blood pressure influenced by ingestion of powdered whey
M Rec 141 251 252 March 6 1935

A study of 15 San Quentin prisoners with hypertension Each man was given rounded tablespoon fulls of dry whey dissolved in a glass of water three times a day Blood pressures were taken daily

In one year the 15 patients treated with no other medication than powdered dry whey three times a day had an average fall of the systolic blood pressure from 180 to 148

A second series was begun consisting of 10 men engaged in active employment The average pressure fell within 20 days from 194 to 163

So far no satisfactory explanation can be given for the fall in blood pressure

STANTON J.R & FREIS E.D Serum uric acid concentration in essential hypertension
Proc.Soc.Exper.Biol & Med 66 193 194 Oct.1947

A study of the blood uric acid concentration in 50 patients admitted to a Massachusetts hospital for lumbodrosal splanchnicectomy All the patients were known to have been suffering from hypertension for a period of from 6 months to 2 years

The authors conclude that in the series of 50 cases essential hypertension unless complicated by renal insufficiency was associated with essentially normal serum uric acid values

STARK L Significance of cardiac enlargement in progress and prognosis of hypertensive heart disease
Nebraska M.J 26 51 52 Feb 1941 also M.Rec 153 132 133 Feb 19 1941

Two types of heart enlargement are mentioned (a) hypertrophy (b) dilatation or both In hypertensive heart disease there is usually in the beginning a dilatation for the purposes of accomodation then hypertrophy follows

The presentation of a case illustrates the ordinary type dilatation - that is seen in patients above 50 years of age and a case in the hypertrophic stage

STARR I Increased noncardiac blood pressure in congestive heart failure bearing on theories of immediate causation of this condition
Tr.A.Am Physicians 52 355 360 1937

The cases studied have been divided into five groups

1 Cases of organic heart disease who died with congestive failure of long duration

2 Cardiac cases who had another cause of death but who had the signs of congestive failure for a brief period before death (uremia apoplexy edema and venous congestion)

3 Cardiac cases dying of some other diseases without any signs of congestive failure

4 Cases without any cardiac disease

5 Cases dying with marked abdominal distention

The results of this investigation suggest that part or all of the increase of venous pressure in congestive failure is not directly due to the heart for the increase persists when the heart has stopped

STARR I.JR & OTHERS Studies of heart and circulation in disease estimations of blood pressure in 235 subjects
J Clin.Investigation 13 561 592 July 1934

Duplicate estimations of cardiac output together with determinations of metabolism blood pressure and pulse rate performed on 31 healthy persons and 204 hospital patients under conditions of basal metabolism Orthodiagrams were also secured The results were subjected to statistical analysis

The condition of the circulation in the various forms of disease has been described and compared with the normal The most unexpected f nding was that the average ba al circulation in ca es of neurocirculatory asthe nia was very abnormal

The authors have sought for relationships by which the cond tion of the heart muscle may be ascerta ned Among normal persons and patients with normal hearts but abnormal circulations the relationship between heart work per beat and heart si e hold more closely than any other stud ed In cases where they have been more decompensated thi relationship is abnormal almost without exception Therefore the authors believe that it may be u ed to define normal myocardial funct on and to detect myocardial d sease
Tables

STEAD F A & EBERT R V Postural hypotension disease of sympathet c nervous system
Arch.Int.Med 67 546 562 March 1941

Patients with postural hypotension d not pool more blood in the lower part of the body on standing than do normal subjects under sim lar cond t on The po ling of the normal amount of blood causes an abnormal fall in blood pressure

Po tural hypoten ion is a di ease of the sympathetic nervous syst m It cannot be def nitely stated whether the involvement of the sympathetic syst m i peripheral or central The observations reported in this st dy point to the interpretation that th lack of vasoconstri t on n response to a f ll in arter al pressure is produced by a lesion or lesions n the sympathetic centers or the r efferent tra ts in the central nervous system rather than by lesions in the more per pheral portion of the postural blood pressure reflex arc
Charts

STEELE J.M Compar son of simultaneous indirect (auscultatory) and d rect (ntra arterial) measurements of arterial pres ure in man
J.Mt.Sinai Hosp 8 1042 1050 Jan Feb 194

A comparison of simultaneous measurement of arter al pressure obt ined by d rect intra arterial mano metry and by indirect auscultatory techn que in 39 ndividuals The follow ng observations w re made

1 Systol c pressure was undere timated n indirect measurement by about 10 mm Hg In the present study the indire t pressure n the brachial was compared with the dir ct pressure in the radial artery This procedure m y account for half of this difference

2 In the auscultatory technique the d sappearance of sound proved to be a more a curate measure of diastolic pressure than the sudden muffling The form r over estimated diastol c pres ure by 6 8 mm Hg the latter by less than one

3 The nd rect auscultatory method of estimat ng a ter al pressure is cons der ng its convenience and simplicity an unusually accurate bedside m thod
Tables Charts

✓STEELE J.M & KIRK E   Significance of vessels of skin in essential hypertension
J Clin.Investigation 13 895-899 Nov 1934

An investigation to find out whether the vessels of the skin participate in the mechanism which results in elevating the blood pressure in essential hypertension   The behavior of vessels of skin of 3 hypertensive males and 6 hypertensive females aged 29 to 46 years was studied   Results

1 The temperature of the skin of individuals suffering from arterial hypertension does not differ significantly from that of normal individuals

2 Diurnal variations in surface temperature regularly occur in individuals with arterial hypertension without significant change in arterial pressure

3 Elevation of arterial pressure in hypertensive individuals does not depend on though it may be accompanied by constriction of the arterioles of the skin

STEIDL J & HEISE F.H   Pulse rate and blood pressure during artificial pneumothorax insufflations
Am Rev Tuberc 26 730-737 Dec 1932

71 patients receiving pneumothorax treatment were studied   In spite of the fact that the entire group showed an average rise of 5 mm a few seconds to a minute following the drop caused by pulling out the pneumothorax needle the general average of the systolic pressure in 71 cases was 6 5 mm lower after the insufflation was finished than before it was begun   There was usually very little variation in the diastolic pressure Simultaneous blood pressure and pulse studies during insufflation showed little corrdination between the pulse and blood pressure   In general the changes in the pulse rate were rather slight throughout the insufflations

STEIN B.R & BARNES A.R   Severity and duration of hypertension in relation to amount of cardiac hypertrophy
Am.J.M Sc 216 661 664 No 6 Dec 1948

In a series of 111 cases in which blood pressure had once been observed as normal but hypertension subsequently had developed records of necropsy were reviewed

The percentage of cardiac hypertrophy appeared to be directly related to the severity (group) of hypertension but unrelated to the duration of hypertension   Except in a limited number of cases the relationship could not be found between severity of hypertension and duration of hypertension   The women of the series withstood their hypertension better than the men

Tables

STEIN I   Effect of change of position of arm on blood pressure
Am.Heart J 31 477-480 April 1946

The subjects were 100 young adults aged 20 to 35 years examined in the order of their hospital admission All were hospitalized for trench foot

It was found that the position of the arm has a definite and uniform effect on blood pressure readings   The systolic pressure is lowest when the arm is hyperabducted that is when made to lie along the long axis of the body   The systolic pressure becomes higher as the arm is adducted and brought toward the side of the body in the horizontal plane   A neutral position of the arm 45 to 90 degrees from the side of the body is probably the optimum position for the estimation of blood pressure   The findings re emphasize the importance of using a standard position in taking blood pressures   Other positions may cause a marked discrepancy in blood pressure readings

STEIN I.D HARPUDER K & BYER J   Effect of sympathectomy on blood flow in the human limb
Am.J Physiol 152 499 504 No 3 March 1948

A lumbar sympathectomy which is effective when gauged by the changes produced in an area of predominant skin circulation (foot) produces a minimal increase in the circulation of a predominatly muscular area (calf)

The effective stimulus in increasing muscle blood flow is one which releases vasodilating metabolites Exercise direct tissue healing and arterial occlusion and release are examples of this

The clinical application of sympathectomy for lesions or symptoms in areas primarily of skin circulation and other areas which are composed chiefly of the muscle are discussed   The use of sympathectomy for the latter is of doubtful value

Tables

✓STEINITZ K   Renal circulation in normal person and patients with hypertension and renal disorders
Acta med.Scandinav 109 95 114 1941

The mean value of renal plasma flow and of glomerular filtration are in the same range as previously reported by H.Smith Goldring and Chasis

In 4 of 6 cases of essential hypertension the renal blood flow and the glomerular filtration were found within the normal range   This leads to the conclusion that a decrease of the renal blood flow is not a necessary andcharacteristic attribute of the essential hypertension   It is suggested to separate essential hypertension as a special disease from renal hypertension

The results of the measurement of renal blood flow and glomerular filtration and the conclusions regarding the tonus of the efferent and afferent arteriole in malignant hypertension acute nephritis and nephrotic syndrome are reported

STEPHENSON R W   Hypertensive retinal changes and sympathectomy
Proc.R.Soc.M Lond 41 727 No 10 Oct 1948

A presentation of 3 cases not specially selected of high blood pressure   All 3 were reported as having normal visions with complaints of failing sight and gross retinal changes with only possibility of improvement by reduction of the high blood pressure   Sympathectomies were done   All 3 were reported as having normal vision afterwards though the longest history of the 3 after operation was only 1 year   The author suggests that this is very remarkable considering the usual outcome of such cases

Tables

STERN K : Relation of arteriosclerosis and arterial hypertension to mental disorder
Canad.M.A.J 45 512 517 Dec 1941

Among a consecutive series of 53 autopsies in a mental hospital cerebral arteriosclerosis was present in 12 In 7 it was related to the disease 6 of these cases suffered from arterial hypertension With 1 exception the pictures were those of acute or subacute disease of the organic type post apoplectic psychoses or episodic disturbances It is attempted to delimit the clinical picture of encephalopathy in genuine hypertension from that in acute and chronic glomerulonephritis on one hand and pure senile arteriosclerosis on the other hand

STEVENSON G.H & HOBBS G.E Blood pressure and blood vessels (diagnostic significance) in cerebral arteriosclerosis
Canad.M.A.J 29 125 127 Aug 1933

The condition of the retinal arteries is a valuable aid in the diagnosis of cerebral arteriosclerosis However the absence of retinal arteriosclerosis does not definitely exclude this diagnosis nor do the findings necessitate it absolutely An idea of the value to be placed on the kinding of retinal arteriosclerosis can be gained from the fact that it is present in 72% of the cases with cerebral arteriosclerosis and only in 12% of a control group

The condition of the peripheral arteries and the level of the blood pressure is of no value in the diagnosis of cerebral arteriosclerosis
Table Chart

STEWART H.J Management of hypertension
New York Acad.Med 14 681 698 Nov.1938

1 The method for recording of blood pressure
2 Incidence of hypertension racial and environmental distribution factors of heredity constitution and psychologic make up as they relate to hypertension
3 Nature and pathological physiology of hypertension
4 Evaluation of the patient s condition
5 Prognosis and probably clinical course of the disease Favorable and unfavorable signs
6 Heart failure - signs symptoms and treatment
7 Treatment of hypertension
(a) The author is of the opin on that none of the drugs directed towards lowering of blood pre sure are of ben fit
(b) Surgery its effectiveness is difficult to evaluate and its o itcome uncertain
(c) Symptomatic therapy general regime is outlined and elim nation of excesses stressed The psychological and psychiatric approach is di cussed and suggestions given as to method for reorganization of patient s life in the direction of moderation A case history is given to illustrate prol lems likely to arise

The author stresses the need for the understan i ng of the hypertensive and for treating him a an in i vid ual He encourages the psychological approach which strives for the relief of the tension of everyday l ving

STEWART H.J EVANS W F & HASKEI L H.S Peripheral blood flow ur der basal cond tions in older male subjects with normal and elevated blood pressures
Am.Heart J 31 343 351 March 1946

The peripheral t lood flow and skin and re tal temperatures have been measured in 25 male patients from 38 to 77 years In 12 subjects there were chemical s gn of vascular da nage without hypertension and in 13 there wa also hyperten ion The result in these cases have been compared w th tho e in normal young male subjects Patients with hypertension in the older age group show the s me trends but to a lesser extent as are shown by patients with hypertension in the earlier decade
Tables

STEWART H.J EVANS W F HASKEI L H.S & BROWN H Effect of splanchnic res ction on peripheral blood flow and rectal and skin temperatures in hypertensior
Am Heart J 31 728 743 June 1946

The peripheral blood flow has been measured by a modification of the method of Hardy and Soderstrom in pati nts w th arterial hypertens on b fore and a inte vals after splan hnic resection undertaken with the intent of lowering the blood pressure In addition ob er ations were made of th skin and rectal t mperatures In 19 patients the Smithwick procedure was carr ed out and in 7 op rated upon earli r the less ext nsive operation was done

In these patients the Smithwick procedure was more effective in lowering the blood pressure than the less extensive splanchnic resection

Extensive observat ons are ndicated reg ird ng the peripheral blood flow the average skin temperature and mean ba al metabolic rate of ho e whose blood pressure was lowered by the operation parti ularly Those whose blood pre ure was lowered little or not at all by the operation are comm ented on more br efly

In final conclu ion the author write It is likely that the mechanism whatever it may be which is responsible for the elevation of blood pr s ure is also respons ble for the difference in local skin temperatures which hypertensive patient exhibit when comj ared w th normal individuals
Charts Tables

STEWART H J HASKELL H S & BPOWN H Effect of smoking cigarets on peripheral blood flow in sub jects in older age group with coronary arteriosclerosis and hypertension

Am Heart J 30 541 550 Dec 1945

The peripheral blood flow basal metabolic rate blood pressure and pulse rate were recorded in 17 pat ients who exhibited evidences of hypertension and coronary arteriosclerosis and whose age ranged from 38 to 81 years of age As a result of smoking the peripheral blood flow decreased in 13 subjects and increased in 4 subjects The blood pressure rose and the pulse rate increased in the group in which smoking decre sed the peripheral blood flow but it was essentially unchanged in the group in which smoking increased the peri pheral blood flow

Tables

STEWART J D KENNEDY P A & HALE H W JR Systolic pressure and pulse rate in traumatic shock

Surg Gynec & Obst 85 453-455 Oct 1947

An attempt was made to evaluate two of the reactions which are widely regarded as of critical interest in the diagnosis and prognosis of shock i e systolic blood pressure and the pulse rate Values for systolic blood pressure and pulse rate in 204 freshly gravely wounded soldiers have been examined Results

1 In non-fatal as well as fatal cases the systolic blood pressure under restorative therapy tended to rise toward normal whereas the pulse rate tended to rise away from normal

2 Co efficients of correlations between systolic blood pressure and pulse rate are shown to be quite low both before and after restorative therapy and surgical operation

3 Systolic blood pressure appeared to have more prognostic value than pulse rate though both showed more deviation from the normal in fatal cases than in the group as a whole

4 Systolic blood pressure and pulse rate in traumatic shock should be considered as representing the momentary effect of varied and compounded physiological reactions The frequency of exceptional values indicates that these two factors require caution in the evaluation of the state of traumatic shock

Tables Charts

STIEGLITZ E J Prognostication in arterial hypertensive disease

Illinois M J 62 414 419 Nov 1932

Prognostication in individual instances of hypertensive arterial disease must be based upon a number of independently variable factors The cardiac and renal functional reserves are most important Whether or not specific initiative etiologic factors are amenable to therapy is significant Of the greatest importance is a careful investigation of the degree of arteriosclerosis present Transient arterial dilation with the soluble nitrites while being of little or no therapeutic value in hypertensive disease has great prognostic value

The progression of hypertensive disease is divisible into two phases early hypertension due to arter iolar spasm and later arteriosclerotic disease These two phases do not constitute separate entities but merely stages of development of a single progre ssive disease and in clinical practice they frequently overlap

✓STIEGLITZ E J Arterial hypertension evaluation of prognosis

Arch Int Med 46 227 235 Aug 1930

The prognosis of arterial hypertension in individual instances should be based on several variable factors and does not necessarily coincide with the statistical average prognosis for groups of hypertensive individuals The factor of age is not of great importance The factor of the etiologic background accounting for the hyper tension is significant Likewise the status of the cardiac and of the renal reserve are of importance Most significant of all is the stage at which the vascular disease is encountered Whether the hypertension is of purely spastic origin or whether slight moderate or extensive fibrotic changes have already taken place in the vessel walls Spasticity and hypertonicity no matter how severe are amenable to therapy Fibrotic scarring and replacement of degenerated muscle cells are not amenable to therapy but represent permanent injury

✓STIEGLITZ E J Emotional stimulation and high blood pressure

Am J M Sc 179 775 78? June 1930

According to the author exaggeration of the vasomotor response to emotional stimulation causes an acute arterial hypertension in certain patients with associated subjective symptoms The symptoms are quite vari able being referable to the cardiac apparatus the head cutaneous sensations and the respiratory functions The symptoms are all physiologically dependent upon vasomotor phenomena Emotional instability is charac teristic of this group Sexual disturbances are likewise frequent and notable Such emotional hypertension may form the basis of later permanent arterial hypertonia

STIEGLITZ E J The management of hypertension in pregnancy

Illinois M J Oak Park xlix 234 19?6

The clinical types of hypertension in pregnancy may be classified into four groups I A relatively benign type II A late malignant type III Hypertension in patients with pre existing vascular and usually renal disease IV Hypertension with definite complications such as thyrotoxicosis cardiac disease acute nephritis acute infections or obstetrical difficulties

In the management the elimination of any source of intoxication is of importance Sources of vascular irritation in the dietary should be deleted at once The promotion and stimulation of toxic products is import ant At least 2 or 3 liters of fluid should be the daily consumption The use of a sedative has proven to be of considerable assistance in the management Their purpose is two fold first to enable the patient to really relax when trying to r st second there may be a direct vasomotor sedative action

✓STOFER B.E & KLINE L L   Postmortem study of renal pelvis in relation to hypertension
Arch.Path 35 681 684 May 1943

A method for determining exactly the position of the pelvis relative to the parenchyma of the kidney is described This method was applied in a representative series of routine autopsies The results were statistically analyzed to determine any significant correlation between the intrarenal pelvis and hypertension No such correlation could be demonstrated Likewise no significant correlation was found between hypertension and rotation or between hypertension and fetal lobulation

STOKVIS B   New method for uninterrupted registering of pressure as psycho physiologic research technic for study of psychic stimuli on blood pressure
J.Exper Psychol 22 365 376 April 1938

The article is best summarized in the author s own words   After a summary of literature about the uninterrupted measuring of blood pressure a method is described for the uninterrupted automatic bloodless registration of the systolic and diastolic blood pressure in man From the reactions of the blood pressure on numerous psychic stimuli examined with the method a hypothesis is built up relating to the psychogenesis of essential hypertension

A synopsis of a research on the influence of various psychic and sensorial stimuli on the blood pressure is presented In this research 21 different stimuli were administered to 10 normal persons and 10 essential hypertensives and their influence on systolic and diastolic pressure registered It was found that of all the stimuli the affective ones have the greatest influence from the affective ones especially those which are attended by a feeling of unpleasantness
Tables Charts Diagram of apparatus

STOKVIS B   Influence of hypnosis on pressure study with aid of new method of uninterrupted automatic registration
J de physiol et de path gen 35 691 700 Sept 1937

A detailed survey of methods of taking periodic blood pressure readings followed by a description of an apparatus which will register blood pressure automatically continuously and bloodle sly This method is particularly applicable in the study of psycho-physiological problems

By way of illustration the author cites the use in an investigation of the influence of hypnosis on systolic and diastolic blood pressures 12 normal healthy individuals and 12 individuals suffering from essential hypertension were subjected to various emotional experiences during which a continuous record of their blood pressure was taken The results are presented in tabular form and conclusions drawn
Tables and Diagrams

STORCK A.H & OCHSNER A   Mechanical decompression of intestine in treatment of ileus effect of stripping on blood pre sure
Arch.Surg 33 664 669 Oct 1936

Relief from intestinal distention associated with mechanical obstruction by stripping of the intestine has been recommended by some clinician and condemned by others The undesirable and considerable degree of lowering of blood pressure that usually accompan es or follows stripping the small intestine in which obstruction was present has already been observed and reported by others In the present experiments it was observed that a fall in blood pressure consistently follows str pp ng

B cause of the serious degree of vascular hypotension wh ch stripping frequently causes and because of the undesirable effect (a subsequent motor activity of the intestine and the increa ed dang r of peritonitis incident to the employment of the procedure) the authors believe the stripping of the intestine is dangerous and should not be performed except when immed ate evacuation of the bowel s necessary to permit replacem nt of the small intestine and clo ure of the abdom nal cavity or to prevent k nks of the   Water hose   type
Charts

STOVER L & DRY T.J   Pathologic changes in auricles n aur ular fibrillat on a soc ated with hypertensi n
Minnesota Med 26 699 705 Aug 1943

Auricular dilatation is slightly more common in cases of auricular fibrillation th an in the other groups It is also found frequently in hypertensive heart d sease with congestive failure but i relatively uncommon in cases of hypertensive heart disease in which there has b en no hi tory of auricular fibrillation or congestive failure The heart weight had a defin te bearing on the s ze of the auricles stud ed and in all hearts weighing more than 500 gr auricular dilatation was a very freque t f r d ng Dilatat n of the aur cles was uncommon in the hearts which weighed les than 500 gr with the except on of those which had fibrillated In this group dilatation was almost as frequent as n the cases of auricular fibr llat on which occurred in hearts w ighing more than 500 gr
Tables Illustrations

STRASSMANN E & PHILIPP R   High blood pressure as indication of plur glandular incretory distu bance in myoma
Arch f Gynak 159 537 547 1935

A study to determine whether there is a connection between myoma and circulatory disturbances which are not caused by th e loss of bloo l The blood pressure of 500 myoma patients was compared with that of 500 other patients

Elevated blood pressure in myoma pati nts is not a d rect consequence of the tumor Bot are symptoms of an incretory disturbance

✓STRAUSS M.B Etiology of toxemias of pregnancy etiologic relationship between water retention and arterial hypertension
Am.J.M Sc 196 188-198 Aug 1938

1 The author states that arterial *hypertension* in pregnancy due to pre existing primary vascular or renal disease is not influenced by alterations in water balance

2 True *toxemia* *of* pregnancy is the result of undue *water retention* conditioned by hypoproteinemia

3 Arterial *hypertension* and pre eclamptic manifestations such as edema headache vertigo drowsin and visual disturbances in the true toxemia of pregnancy may be relieved by measures which eliminate u water retention

4 Study of the *behavior of* pregnant women with hypertension after changes in water balance may serv differentiate true *toxemia' from primary vascular* and renal disorders

5 *A* diet low in sodium *has been shown* to be one successful way to decrease or eliminate signs and symptoms *of* true toxemia of pregnancy

6 *The development of true* toxemia *of pregnancy can probably be prevented* by maintaining the preg nant woman s plasma *proteins* at a normal level by adequate diet
Charts

✓STROUSE S *Hypertension* The effect of high protein and high salt intake
Med Clin.N Am Phila *v 229 232 1921*

A case *report of a married* woman aged 47 years who entered the hospital with a diagnosis of chronic hypertensive cardiovascular disease probably *belonging to the essential* hypertensive group Blood pressure on *admission was* 290 systolic and 160 diastolic

The patient was given a high protein and high salt diet 10 days afterwards the pressure was 200 systoli and 100 diastolic and the patient showed clinical improvement Removal of protein and salt was followed by a rise in blood pressure

The author feels the fears of salt and protein in hypertension *have not been based on experimental fact*

STROUSE S & KELMAN SARAH R *Protein feeding and high blood pressure*
Tr Ass.Am Physician. Phila *xxxvii* 166 181 1922 also Arch.Int.Med Chicago xxxi 151 163 1923

The study was undertkane for the purpose of acquiring experimental data on the subject of the relation *of protein intake* to higher blood pressure The data obtained led the authors to the *following conclusions*

I In persons with hypertension and *with slight* or no impairment of renal function marked variations in *blood pressure* occur

2 In such cases no damage to renal *function and no increase* in non protein nitrogen or urea nitrogen of *the blood was found to follow* protein feeding up to 150 gr daily

3 In 3 such cases *strong* soup and coffee given daily did not increase blood pressure

4 In cases of frank *progressive* nephritis with hypertension a diminution of protein intake sufficient markedly to lower the figures for blood non protein nitrogen and urea did not cause *lowering of the blood* pressure

✓STROUSE S & SALFHIR O *Hypertension* nephrosclerosis and nephritis
M Clin.North America 16 359 382 Sept 1932

The authors present a series of cases where hypertension resulted in death First a clinical summary of each patient is given then a brief abstract of the pathologic findings with an attempt to correlate the two

At autopsy in advanced cases of permanent hypertension are found diffuse arteriolar sclerotic changes and a nephrosclerosis of the arteriolar variety much more *often of the benign type (Fahr)* There is no means to determine whether or not *these changes are the cause* or the result of hypertension One of the authors feels therefore that permanent *hypertension in these* advanced cases results from and i not the cause of the ana tomical changes found
Tables and Plates

SUAREZ R.M Incidence *of hypertension* in *Puerto Rico*
Ann.Int.M 33 2 Aug 1950

In a hospital population of 13 656 patients admitted to medical services 929 (6 79%) were suffering from hypertension in its various *manifestations* In a series of 3 081 cardiovascular patients observed in Puerto Rico 957 (31 6%) showed hypertensive cardiovascular disease The latter figure is higher than that reported for a similar study in Mexico Argentina and the New England State but lower than that of New York Virginia and Louisiana

Malignant hypertension was not as common in Puerto Rico (2 7%) as it is reported to be by Perera in New York (5%)
Tables

SUGANUMA Y *Influence* of nephrectomy on action of epinephrine
Folia pharmacol.Japon (Brev) 18 145 146 July 20 1934

The effect of adrenaline on the blood pressure was investigated in a dog with both kidneys removed The adrenaline blood *pressure increase* after the nephrectomy was very slight in comparison to the increase after hepatectomy and *evisceration* which might be related to the observation that after nephrectomy neither a re tention nor a destruction of the adrenalin in the kidney could be demonstrated

SUGINO K *Diastolic* pressure in beriberi cases admitted to Philippine General Hospital during years 1932 34
Philippine J.Sc 56 21 27 Jan 1935

The incidence of beriberi is highest in individuals ranging from 21 to 30 years of age especially *females followed* closely by young adults of 15 to 20 years With advancing age there is a tendency *for* beriberi to de crease

The diastolic blood pressure in beriberi is lower than the normal average diastolic blood pressure at a given age *When the systolic blood pressure* is higher than normal in beriberi the lowering of the diastolic blood pressure is not evident

SULLIVAN J.D Sensory reception in hysterical anesthesia as measured by cold pressor response
Arch.Neurol & Psychiat 51 84 85 Jan 1944

Four patients with a hysterically anesthetized limb showed a cold pressor response in the affected limb despite the denial of subjective sensations of pain or cold The cold pressor response of the affected limb was in all subjects similar to that of the normal limb Subjective perception of pain and cold is not necessary for completion of the cold pressor response *Further evidence indicates that hysterical anesthesia does not block* sensory stimuli at the lowest segmental levels The observations suggest that the cold pressor response may be useful in differentiation of hysterical and peripheral nerve anesthesias

SUNDAL A Normal blood pressure curves in age groups *of from* 3 to 20 years
Ztschr f Kinderh 47 742 761 1929

An investigation of blood pressure in relation to age *height weight sex and social class social class is* determined by the type of school a boy or girl attends

1 Blood pressure rises with age

2 Blood pressure readings are higher of high school students than those of public school students of the same age

3 In children of the same age the readings are a little higher for the heavier and taller ones

Tables Graphs

SURTSHIN A RODBARD S & KATZ L.N Inhibition of epinephrine action in severe hypoxemia.
Am.J Physiol 152 623 632 March 1948

The authors report their results

(1) on the blood pressure and heart rate changes *following* the induction of almost complete hypoxemia and after subsequent reinstitution of air breathing

(2) on the response to the injection *of epinephrine before* during and after the hypoxemic phase

Results

1 Acute severe hypoxemia produced by nitrogen breathing in the anesthetized dog caused a gradual rise in arterial pressure reaching a maximum level in 60 to 90 seconds Continuation of nitrogen breathing beyond this time is followed by a paidly progressive fall in pressure to shock levels

2 Re-oxygenation after a period of falling blood pressure results in a marked rise in pressure This *post hypoxemic pressor effect is attributed to the accumulation of pressor materials which do not act in the* absence of oxygen

3 Epinephrine injected during the hypoxemic depressor phase acts similarly in that its pressor action is held in abeyance until the animal is re-oxygenated

Some physiological and clinical aspects of these findings are discussed

Tables and Charts

SURTSHIN A RODBARD S & KATZ N.L Inhibition of pressor response to epinephrine injection in complete anoxia
Proc Central Soc Clin.Research 20 23 1947 J.Lab & Clin.Med 3 1414 Nov.1947

The experimentors observed an unepected inhibitory effect of complete anoxemia on the pressor response to epinephrine In the normal dog, an injection of 0 5 mm of epinephrine intravenously causes a marked rise in arterial pressure which occurs within a few seconds and gradually diminishes during the next few minutes

It is suggested that in conditions of extreme anoxia i e or other forms of extreme asphyxia, the injection of epinephrine may lead to no change in arterial pressure inasmuch as the cardiovascular system seems to be incapable of responding to this pressor agent Their results show that under these conditions of extreme anoxia endogenous pressor states exist which upon the administration of oxygen in adequate amounts would in themselves cause a marked rise in arterial pressure

SUTHERLAND A.M MOLUN UT N.J & BROOKES R.D Effect of simulated altitudes on spinal fluid and venous pressure of dogs

J.Aviation Med 15 280 Oct.1943

The author found

1 The changes in the venous and cisternal pressures at altitudes up to and including 40 000 feet are small and within the range of normal variation

2 The venous and cisternal pressures roughly parallel each other

3 Barometric pressure changes in *the environment were accurately reflected in the barometric pressure* changes within the animal

SUZUKI S Effect of Roentgen rays upon vegetative nerve
Jap.J Obst & Gynec 14 418-420 Oct 21 1931

The irradiation of X Rays causes a fall in the meaximum and minimum blood pressure The irradiation of X Rays prohibits the *action of* adrenalin to the blood pressure the rise of the blood pressure is slight and the velocity *of* rise is slow These changes come from the parasympathicotonia caused by the irradiation of X Rays

SWANSON E.E SCOTT C C LEE H.M & CHEN K.K. Comparison of pressor action of some isomers of sympathomimetic amines

J Pharmacol & Exper Therap 79 329 333 Dec 1943

1 *The pressor activity of d* and l epinephrine b tartrates has been compared in pithed cats The ratio of the d to the l isomer is approximately *1 18 5*

2 The pressor activity of optical isomers of desoxyephedrine HCL benzedrine sulfate isobenzedrine l mandelate propadrine l mandelate and x propadrine l mandelate has been evaluated in pithed dogs In every instance the l isomer is more active than the d isomer The racemic mixtures of desoxyephedrine HCL and benzedrine sulfate are intermediate in action between their l and d isomers

3 Of the diostereoisomeric salts namely the optically active mandelates of the optically active amines the l mandelate has a relatively higher pressor activity as compared with the d mandelate Thus l benzedrine l mandelate is more powerful than l benzedrine d mandelate and d isobenzedrine l mandelate more powerful than d isobenzedrine d mandelate
Tables

SZEKELY P Blood pressure responses to exercise preliminary report
Am.Heart J 22 360 366 Sept 1941
Efforts have been made to devise a method of measuring venous pressure during and after bodily exercise in order to obtain a more reliable evaluation of the pathophysiologic events in the cardiovenous system This preliminary report is based on 122 exercise tests on 80 patients
The air filled system for measuring the venous pressure with an aneroid manometer is a sound method and is reliable enough for routine clinical use when technical precautions are strict
The different types of pressure curves which were obtained in the exercise experiments are discussed Four illustrative cases are reported
Charts

TAINTER M L & DOCK W Further observations on circulatory actions of digitalis and strophanthin with special reference to liver comparisons with histamine and epinephrine
J Clin.Investigation 8 485 503 June 1930
When dogs are given by intravenous injection doses of digitalis corresponding to the full therapeutic do e for man they exhibit a rise in arterial and fall in right auricular pressure but a simultaneous rise in portal vein pressure These changes are also caused by strophanthin The fall in the systemic and rise in the portal vein pressure are due to the constriction of hepatic veins
After eliminating the liver from the circulation digitalis or strophanthin did not cause a fall of venous pressure nor as marked an elevation of arterial pressure as in the animals with splanchnic circulation intact
Therefore the fall in right auricular pressure after giving digitalis with the hepatic circulation intact was due to diminished venous return flow and ultimately to an accumulation of blood in the splanchnic or portal region as a result of obstructed hepatic outflow (hepatic vein con triction)
The experimental procedures used to determine the actions of digitalis and strophanthin were controlled by comparisons in the same organism with known actions of histamine and epinephrine which cause a similar pooling of portal blood through a similar mechanism the actions being modified however by changes in other vessels
Tables and Charts

TALBOTT JH & OTHERS Renal biopsy studies correlated with renal clearance observations in hypertensive patients treated by radical sympathectomy
J Clinical Investigation 22 387 394 May 1943
Renal clearance studie were performed on 20 patients with essential hypertension which showed a significant correlation with the microscopic appearance of their respective renal tissues which were removed for biopsy at the time of sympathectomy i e the more severe the renal vascular disease the more reduced were the glomerular filtration rate and the renal blood flow
Constriction of the efferent glomerular arterioles was not pre ent in the early stages of renal vascular disease

TAQUINI A C Value of pressor test
Am.Heart J 33 735 May 1947
Comparative studies were made on 100 patients with high blood pres ure by using the cold pressor test (Hines and Brown) and the Taquini and Garcia Campo test consisting in the intravenous injection of 0 025 grm of ephetonine The patients belonged to types I II III (Keith Wagener and Barker) ten had symptoms of hyperten ive heart disease In 6 individuals determinations were made of the minute volume flow with 4 samples following the Grollman technique
Results of these studies are presented Both the cold pressor test and the Taquini and Garcia Campo test showed a relationship to the basal blood pressure but not to the maximal variation or the variability of the blood pressure
It is concluded that the variations in the minute volume the hemodynamic factors caused by a high blood pressure and the organic changes in the vascular system may explain the differences observed between the cold pressor and ephetonine tests It i pointed out that these factors have to be taken into consideration wh en deductions concerning the vasomotor reactivity of hypertensive patients are based upon the results of the pressor tests

TAUSSIG H.B & HECHT M.S Blood pressure in childhood development of essential hypertension under observation
Bull.Johns Hopkins Ho p 62 482-490 May 1938
Three cases are reported in which during the course of a rheumatic infection hypertension has developed under observation The importance of abnormally high blood pressure in young children is emphasized
Graphs

TAUSSIG H.B & RENSEN D.B Essential hypertension in boy of 2 years of age
Bull.Johns Hopkins Hosp 57 183 192 Oct 1935
Case of a boy with hypertension cardiac enlargement and progressive cardiac failure In this case al though there were minute renal changes and a slight reduction in the phenosulphonphthalein there was no ad equate explanation for the long standing hypertension i e no coarctation of the aorta no tumors and no abnor mality in any of the organs except the kidney Furthermore the lesions in the kidney were quite different from the arteriolar and glomerular changes usually associated with hypertension

TAYLOR C.E Racial distribution of nephritis and hypertension in Panama
Am.J Path 21 1031 1046 Nov 1945

This is a study of 498 comparable autopsy cases at the Panamanian Board of Health from 1939 1942 Racial distribution West Indian Negroes 266 Panamanians 77 white 135 miscellaneous 20 total 498

The author reviews the literature on the racial incidence of nephritis and concludes Previous studies have shown that hypertension is 5 to 8 times as frequent in West Indian Negroes living in Panama a in native Panamanians

Detailed conclusions of the present study are given which cover

1 Incidence of hypertension nephritis glomerulonephritis pyelonephritis arteriolonephrosclerosis by race and sex

2 Blood pressure readings of nephritic patients

Tables

TAYLOR R.D BIRCHALL R (et al) Circulatory responses to spinal and caudal anesth sia in hypertension relation to the effect of sympathectomy effect on arterial pressure
Am.Heart J 36 221 225 No 2 Aug 1948

The authors in the as umption that the effects on the circulation of high spinal nesthesia were quite similar to those resulting from sympathectomy suggested that the response of arterial pressure to high spinal anesthesia might aid in selecting patients for this operation This report examines the relationship between the effect on arterial pressure of high sp nal or caudal anesthesia and the effect of subsequent sympathectomy by the Smithwick technique

Pre operative and post operative studies were made in 43 patients Spinal ar esthesia was induced in 25 caudal anesthesia in 18 The effects of spinal and caudal anesthesia on arterial pressure in hypertension are similar despite the fact that in the latter the voluntary muscles are not paralyzed

During anesthesia there were marked decreases in pressure in 40 of the 43 pat ents The blood pressure was persistently decreased by lumbodorsal sympathectomy and ganglionectomy in 12 of these patients The 3 patients unaffected by anesthesia were also unaffected by operation

The investigators conclude that the blood pressure response to sp nal and caudal anesthesia has no mo e than negative value in the selection of patients for sympathectomy The discrepancy between effects on arterial pressure of sp nal or caudal anesthesia and sympathectomy is perhaps due to the great difference in time during which the effects are observed or to the difference in the denervation which each of these causes

Tables

TAYLOR R.D CORCORAN A C & PAGE I.H Menopausal hyperten ion critical study
Am.Jour.Med.Sc CCXIII 475 1947

The authors undertook the care of 200 menopausal women 179 of whom had been surgically castrated and all of whom desired relief of menopausal symptoms Hypertension wa considered present if any read ng exceeded 149 mm Hg systolic and 94 mm d astolic 137 exhibited arterial hyperten ion but 10% had shown this before the menopause Their age range was 20 to 59 years

The study demonstrated that arterial hypertension was no more common among the 200 menopau al women than among general population Vasomot instability as exhibited by hot flashes perspiration and tachycardia is not necessarily associated with hypertension and its alleviat on by estrogens need not affect arterial pressure The menopause seemed to intensify pre existing psychoneuroses Despite severe neurotic behavior hypertens on did not develop within 3 or more years except in six of these subjects From these data t s concluded that the relation h p of the menopause and hypertens on s incidental and loss of ovarian secretion is neither a primary nor a contributory cause of arterial hypertension

Tables

TAYLOR R.D KOHLSTAEDT K G PICHTER A.B & PAGE I.H Differential diagnosis of terminal glomerulonephr t s and malignant hypertension cardiac aspects

Ann Int.Med 21 765 777 Nov 1944

The purpose of this experiment was to point out r teri for the diagnosis of glomerulonephr tis and malignant hypertension derived from stud es of cardiac funct on

Two groups of 10 patients each were selected for study one group had evidence of chron c glomerulonephritis the other of malignant hypertens on Neither group had progressed to ur mia though this final step was imminent

The two groups were compared with respect to h story and physic l findings venou pressure vital capacity and circulat on t me teleroentgenograms el ctrocard ographic studies ballistocardiographic stud es blood pressure stroke volume cardiac output and peripheral resistance

The authors conclude that differential diagnos s between terminal malignant hypertension and terminal glomerulonephr tis can be m de by deta led study of the heart and circulat on Evidence of advanced heart disease is usual in mal gnant hypertension is often indist nct or absent in glomerulonephritis

Tables Charts and Illustrations

See also CORCORAN A C & PACE I.H Differential diagnosis of term nal glomerulonephritis and hypertens on (malignant) renal aspects Ann Int Med 21 747 764 Nov 1944

TAYLOR R.D & OTHERS Effects of large doses of vitamin A concentrate on blood pressur
Am.J.M Sc 206 659 667 Nov 1943

The administration of large doses of a preparation of vitamin A in amounts ranging from 100 000 to 400 000 units daily for from 5 to 90 days in 3 normotens ve and 14 hypertensive patients did not alter the levels of arterial oressure Observations of renal function in 2 normotensive and 11 hypertensive patients revealed increased effective renal blood flow in 9 inc eased glomerular filtration rate in 7 and increased tubular secretory capacity for d odr st (TmD) in of 7 hypertensive patient in whom this function was tested The increase in effective renal blood flow was usually associ ted with increased cardiac output wh ch was the result of tachycardia and not of increased stoke volume The report concludes that

1 Vitamin A concentrate is ineffective in the treatment of essential hypertension in doses of 100 000 to 400 000 units daily for from 5 to 90 days

2 The vitamin concentrate causes renal vasodilation and increased functional capacity for secretion of diodrast with increased cardiac output The suggestion is made that it may have application in the treatment of degenerative renal diseases

Tables

TAYLOR R.D & PAGE I.H Sign and symptoms of impending cerebral hemorrhage
J A.M A 127 384-389 Feb 17 1945

40 patients who died with essential hypertension were examined to determine whether or not clinical causes of those who died of cerebral hemorrhages were similar enough to allow an accurate prediction of apoplexy

Five signs and symptoms were consistently observed

1 Severe occipital or nuchal headaches
2 Vertigo or syncope
3 Motor or sensory neurologic disturbances
4 Nosebleeds
5 Retinal hemorrhages in the absence of papilledema or exudates

Conclusions Demonstration of any four of the above symptoms in a hypertensive patient warrants the assumption that death from cerebral hemorrhage will occur within 0 8 to 5 years (average 2 1)

Tables

THACKER E.A Studies on univer ity students effect of exercise on essential hypertension hypotension and normal subjects
Ann.Int Med 14 415-423 Sept 1940

A study of 15,500 male students at the Univer ity of Illinois from 1935 to 1939 to determine the effect of physical exercise upon them The following information was apparent

1 The increase in the systolic pressure following exercise was greatest in the high blood pressure group

2 The systolic pressure in the hypertensive and hypotensive groups returned to normal more lowly than in the normal group

3 The diastolic pressure when decreased returned to the basal level somewhat slower in the high blood pressure subjects

Tables

✓THACKER E.A Comparative study of normal and abnormal pressures among university students including cold pressor test

This is an investigation undertaken at the University of Illinois in order to study the normal and apparently abnormal blood pressure among University students Careful history physical examinations and re examinations were obtained from 1. 500 male students with normal and abnormal blood pressures The family back ground eating and smoking habits the emotional state weight height age physical performance basal metabolism were all examined and taken into consideration

Tables

THIEN H.N Chronic nephritis and hypertension clinical aspects
J Kansas M.Soc 43 11 Jan 1942

The author reviews the clinical aspects of chronic nephritis and hypertension highlighting the following aspects

1 Classification (a) Acute nephritis (b) Chronic nephritis (c) Essential hypertension (d) Renal arteriosclerosis

2 Etiology of the three chronic groups listed above

3 Criteria for estimation of prognosis (a) Clinical history (b) Condition of card ovascular system (c) Urinary findings (d) Blood pressure findings determined repeatedly over one two or more months (e) Blood urea test (f) Phenosulfophthalein functional kidney test

4 Considerations for management (a) Patient s way of life (b) Anti pressor substances (c) Surgery (d) Sedatives (e) Potassium thiocyanate and potas ium sulfocyanate

THOMAS C.B & MCLEAN R L Effect of intravenous injection of epinephrine and angiotonin before and after production of neurogenic hypertension
Bull.Johns Hopkins Hosp 75 319 325 Nov 1944

This study was designed to compare the effect of the action of epinephrine and angiotonin upon the arterial pressure and cardiac rate of dogs before and after the production of chronic neurogenic hypertension

The authors reach the following conclusions

1 The pressor responses of unanesthetized dogs to epinephrin and angiotonin were not significantly altered by the induction of neurogenic hypertension

2 Angiotonin produces a well marked cardiac acceleration in the hypertensive animal whereas it slows the cardiac rate slightly when the dog is in the normal state Epinephrin has a similar but less marked effect upon the heart rate

3 These experiments indicate that while peripheral vasoconstrictor activity may be increased in neurogenic hypertension vasoconstrictor tone is not sufficiently great to interfere with the action of either sympathicomimetic or humoral vasoconstrictor substances

4 It appears that angiotonin stimulates the cardio accelerator mechanism but that this effect is normally masked by the moderator reflexes

Tables Charts

THOMAS H.M. JR Management of early (beginning) essential hypertension
M Clin North America 23 487-498 March 1939

The definition of normal blood pressure is considered and the author points out that the certain amount of latitude must be permitted in stating the norm and great care elicited in stating basal blood pressure The author discusses the etiology of hypertension briefly stating that knowledge of this phase of the disease is most inconclusive

Diagnostic tests are mentioned in passing the author then considers medical treatment The most important step to reassure the patient and educate him sanely and accurately as to the actual implications of the condition

Every case of hypertension requires individual treatment which (ideally) maintains the body in good general condition and removes worry and nervous strain The effectiveness of the various dietary measures prescribed and the value of drugs are noted

✓THOMPSON C.E & WITHAM A C Paroxysmal hypertension in spinal cord injuries
N.England J.M 239 291 294 No 8 Aug 19 1948

The phenomena of paroxysmal hypertension associated with mass sympathetic discharge in high cord lesions is discussed The diagnostic and therapeutic importance of this syndrome is emphasized Tetraethyl ammonium chloride is an effective drug in its symptomatic control The possibility of an occasional sympathectomy for relief of symptoms is proposed
Charts

THOMPSON J.H Vasomotor effects of stimulating the right splanchnic nerve
J Physiol Lond 65 441-448 1928 1929

This is an investigation of the form of the splanchnic blood pressure curve based on a systematic study of the responses from the right nerve

The experiments were performed on the right splanchnic nerve The presence of a considerble number of vaso dilator fibres was revealed Stimulation of the nerve revealed that its pressor response can be rapidly exhausted that a sharp rise occurs on cessation of stimulation and that depressor responses can be easily elicited

Allusion is made to certain anatomical differences between the right and left nerves
Photographic charts

THOMPSON R Blood pressure and mental disease
J.Ment.Sc 74 493-496 July 1928

The purpose of this paper is to illustrate the clinical usefulness of the blood pressure record Four case histories are presented and the following conclusions drawn

1 The blood pressure may shed valuable light on difficult cases
2 It may give useful indication for treatment
3 It may be in certain cases an a curate guide to the progress of the patient under treatment

THOMPSON W O DICKIE L F MORRIS A E & HILKEVITCH B.H High incidence of hypertension in toxic goiter and in myxedema
✓
Endocrinology 15 265 272 July Aug 1931

The incidence of hypertension appears to be greater in patients with toxic goiter and in patients with myxedema after the metabolism has been restored to normal by appropriate treatment than in the general population In patients with toxic goiter if the systolic pressure is 190 mm of mercury or over before treatment it is probable that it will be 150 or over after treatment

A diastolic pressure of 100 mm or over in both thyrotoxicosis and myxedema before treatment makes it practically certain that a hypertension exists independently
Tables

THOMSON K.J REID D.E & COHEN M.E Venous pressure observations in normal pregnant women in pregnant women with compensated and decompensated heart disease and in pregnancy toxemias

Am.J.M.Sc. 198 665 679 Nov 1939

Arm venous pressures were determined according to the direct method of Moritz and Von Tabora The material comprises venous pressure observations on 20 normal pregnant women 27 compensated cardiacs 18 decompensated cardiacs and 21 toxemics

The arm venous pressure was found within normal limits during normal pregnancy This study corroborates other observations and points out possible sources of error in those studies which report the increase of venous pressure in normal pregnancy It does not corroborate the finding of extremely high venous pressures in toxemias of pregnancy

The venous pressure of normal pregnant women tends to diminish from early pregnancy to the sixth month remains fairly constant throughout the remainder of pregnancy rises slightly in the early puerperium and returns to the early pregnancy level later post partum

This same trend is present in pregnant women with compensated heart disease

The measurement of venous pressure cannot be used to predict or diagnose early congestive heart failure in pregnant cardiac women There is probably a slight increase in venous pressure accompanying toxemia of pregnancy The venous pressure decreases immediately post partum in patients with toxemia of pregnancy in contrast to normal pregnant women in whom it usually rises
Tables and Charts

THONNARD NEUMANN E Pathogenesis of high blood pressure in Negroes of Central America
Arch f.Schiffs u Tropen hyg 34 183 197 April 1930

The blood pressure of 500 patients with an average age of 40 years was taken About one third had systolic blood pressure readings of 140 and above There was not much difference between the readings of men and women The examinations showed that the majority of the hypertonic patients had syphilitic arthritis and endocarditis arteriosclero is and chronic renal diseases whereas angina pectoris and apoplexy were almost completely absent

TIBA M Action of nicotine upon blood pressure in rabbits depreived of celiac and superior mesenteric ganglia and suprarenals
Tohoku J Exper.Med 33 ?13 218 June 25 1938

An investigation was carried out to test whether or not the exclusion of the coeliac plexi and the superior mesenteric ganglion is capable of nullifying or largely reducing the powerful pressor effect of nicotine which is not materially altered by double suprarenalectomy

Nicotine was intravenously administered into normal rabbits and rabbits indefinitely surviving removal of the suprarenals and the coeliac and upper mesenteric ganglia in doses of 0 5 mg and 1 mgrm per kilo of body weight with the mean blood pressure recorded The following results were obtained

The removal does not alter at all the magnitude of the pressure fall occurring immediately after the nicotine injection and that of the sub equent pressure elevation Neither is the time when they occur altered
Tables and Charts

TONKIN H L Hypertension in young persons
Pennsylvania M.J 42 755 758 April 1939

In order to determine the relative importance of the several types of hypertension the records for the last 10 years of ho pitalized and ambulatory patients were reviewed comparing the hospitalized patients with the ambulatory patients The following conclusions can be drawn

1 The most frequent type of hypertension requiring hospitalization is due to toxemia of pregnancy and is the result of chronic diffuse nephritis

2 The type of hypertension seen most commonly in young ambulatory individuals is the primary or es sential type

TORGERSON W.R Blood pressure in Porto Rico
Porto Rico J Pub Health & Trop Med 5 436 442 June 1930

A review of the blood pressure of 100 consecutive hospital patients The group ranged in age from 7 to 74 years Even though all patients were ill the majority was not suffering with serious illness

On the basis of this very small sample the author concludes that while the averages in Porto Rico are perhaps below those for the U.S the difference is not great
Tables

TOURNIAIRE A Coexistence of tachycardiac neurosis and hypertension differential diagnosis
J de med de Lyon 14 89 92 Feb 5 1933

Tachycardiac neurosis and hypertension occasionally coincide In such cases the differential diagnosis is most important since the indicated therapy for the former is harmful if the latter is present Three case histories are presented as support for the author s suggestion that the two conditions may be distinguished by the way in which the elevated pressure found in both responds to rest If the patient is hypertensive the pressure may fall slightly but will remain at pathological levels in the neurosis rest always brings abo t a fall in mean pressure to its normal level Supplementary evidence may be obtained from X rays which may indicate left ventricular enlargement in the hypertensive

TRAVEL J GOLD H & MODELL W Blood pressure and size of cardiac infarct
Am Heart J 15 448 451 April 1938

Experimental study on 27 cats and 12 control animals In a cat with otherwise normal circulation the blood pressure was almost invariably normal three weeks after ligation of large coronary artery (less circumplex)
This applies to infarcts of widely different sizes
Tables and Charts

TROTTER R EDSON P & GESELL R A comparison of the waves of blood pressure produced by slow and rapid breathing
Proc.Soc.Exper.Biol & Med N Y xix 57-59 1921 1922

The effects of rapid breathing were compared with those of more normal breathing upon the systolic blood pressure in man Supplementary data were also obtained on the dog and cat

The changes of blood pressure occurring during a single respiration are termed simple cardio respiratory waves those produced by rapid breathing cardio respiratory interference waves

The most striking difference in respiratory relations of the simple and interference waves is that in the simpler waves the blood pressure changes are complete within the period of a single respiration while in the interference waves the gamut of the blood pressure changes is run through in the interval of several respirations

Observations are presented with regard to the production of interference waves the authors favoring the hypothesis that they are primarily due to the changing intra thoracic pressure accompanying respiration

Finally comments are made about double interference waves

The results of these experiments on the dog and cat are in agreement with those obtained in man

TROTTER R T EDSON P & GESELL R A comparison of waves of blood pressure produced by slow and rapid breathing
Am J Physiol Balt lv 500 518 1922
The effects of rapid breathing were compared with those of more normal breathing upon the systolic blood pressure in men The authors call the changes of blood pressure that occur during a single wave simple cardio respiratory waves The oscillations of pressure elicited during rapid breathing are designated as cardio respiratory interference waves
The most striking difference in the respiratory relations of the simple and interference waves is that in the simple waves the blood pressure changes are complete within the period of a single respiration while in the interference waves the gamut of the blood pressure changes is run through in the interval of several re spirations
Charts

TROUTMAN W B Medical management of hypertension
Kentucky M J 45 7 8 Jan 1947
The author speaks briefly of five types of hypertension and their treatment I The renal II Pituitary overactivity III Adrenal IV The type in which there is increased fragility of permeab lity of the small blood veesels V Miscellaneous (this includes lead poisoning)
Besides drugs rest and general measures as therapeutic agents are described under the latter category fall 1 Relaxation 2 Weight reduction 3 Elim nation of tobacco 4 Diet As a last resort the author recommends surgical treatment

TUCKER W I Psychiatric factors in essential hypertension follow up study of 74 cases
N England J M 243 6 Aug 10 1950
In a psychiatric follow up study of 74 patients with hypertension one year or more after the initial examin ation 15 of 18 patients treated by sympathectomy showed symptomatic improvement 11 of 13 patients treated by psychotherapy showed symptomatic improvements and 20 of 43 patients given reassurance alone showed symp tomatic improvement
Cases illustrating the role of emotional factors particularly secondary anxiety in the production of symptoms and aggravation of the condition are reported

TUCKER W I Psychiatric factors in essential hypertension
Dis Nerv Syst 10 273 278 No 9 Sept 1949
A report on the psychiatric evaluation of a group of 100 hypertensive patients studied at the Lahey Clinic The patients were all under 55 years of age with no signif cant evidence of cardiac cerebral or renal damage
The findings are presented with 4 detailed case histories The psychiatric evaluation concerns family history characteristic personality type presence of neurosis and presence of traumatic emotional experience preceding the discovery of hypertension Some aspects of the f ndings are d scussed stressing the const tu tional factors and secondary anxiety

TUNG C L Blood pressure of Northern Chinese males
Chinese J Physiol 1 117 130 Feb 1930
An analysis of the systolic and diastol c blood pressure records of 1 233 Northern Chinese males aged 15 to 44 years of var ous occupat ons
Blood pressure is found to rise stead ly with age the range of var at on appearing great at all ages Re examination of 100 unselected individuals indicated the role of nervous tens on n the production of transient hypertension No seasonal variation of blood pressure was apparent
The findings suggest to the author that essent al hypertension does occur in Chine The etiology of hyper tension with regard to such factors as environment d et and mental tension is discussed
Tables and Charts

TUNG C L Relative hypotension of foreigners n China
Arch Int Med 40 153 158 Aug 1927
An analysis of parallel records of the systolic and the d astol c blood pressure of 58 Americans at home and in Peking about 3 years later shows an increase of systol c pressure in 15% of the subjects no change in 21% and a decrease in 64% The diastolic pressure shows an increase in 12% no change in 16% and a decrease in 72%
Tables

TUOHY E L Management of essential hypertension
Minnesota Med 18 354 360 June 1935
The hereditary background of essential hypertension is considered in some detail Hyper reaction to the cold pressor test as a method of revealing condit oned individuals who may develop fixed periodic sustained hypertensive episodes nd subsequent permanent hypertensive d sease is d scussed
A sensible and accurate diagnosis is required a broad understanding of the pat ent s problems should be cultivated
The author cites statistical data concerning hypertensive disease and autopsy findings and mentioned the confusion of both patient and doctor regarding the symptomatology and pathology of essential hypertension Retinoscopy and eclampsia are discussed
In the authors opinion everyth ng points to an attempt to prolong the stage of equilibrium o myocardial sufficiency and the use of remed al drugs such as d g talis is reviewed Finally the factors maintaining the status of card ovascular equil brium are considered

TURNER A.H Adjustment of heart rate and arterial pressure in healthy young women during prolonged standing
Am.J Physiol 81 197 214 June 1927

A system of scoring based on observations of heart rates and arterial pressures during a prolonged period of quiet standing and control period of reclining has been devised which appears to give an index of the ability of the circulation to adapt itself to changes in position The use of the change from reclining to a more or less prolonged period of standing still is suggested for circulatory studies as likely to produce differential results quite as suggestive as those of exercise versus rest Reasons for this may lie in the essential mechanical difficulty involved in maintaining the erect posture and in its possible phylogenetic history
Tables

TURNER R Medical sympathectomy in hypertension a clinical study of methonium compounds
Lancet 2 10 Sept 2 1950

This is a preliminary paper on the possible use of Hexamethonium and Pentamethonium compounds in cases of essential hypertension in order to produce effects comparable to those of surgical sympathectomy These block the transmission of nerve impulses through the autonomic ganglia and their potential range of usefulness is wide The following topics are treated

1 The compounds and their action 2 Assessing the effect 3 Illustrative case histories 4 Effect on venous pressure 5 Hemodynamics 6 Reactions and side effects 7 Effect of posture 8 Tolerance and intolerance 9 Choice of preparation 10 Administration

The methonium drugs as yet have no place in the routine management of patients though they may prove useful in the treatment of resistant symptoms related to hypertension More information about their precise action is needed

There is no evidence as yet that continuous reduction of blood pressure by drugs which paralyze the autonomic ganglia will prove beneficial in the long run to hypertensive patients it may prove harmful to some Even if desirable it is not easy to achieve with the drugs investigated It is possible that a study of the methonium compounds will throw light on the etiology of essential hypertension
Charts

ULLOM J T Hypertension with especial reference to prognosis
N York M Y (etc) cxvii 753 1923

Study of a series of 112 patients under observation for periods of a few months to 12 years 51 nephritic (average age 58 years) 54 vascular (average age 56 years) 6 menopausal

The author reaches the following conclusions

1 The cause of hypertension in men is usually chronic renal di ease In women hypertension due to vascular disease is more frequent

2 Prognosis is much more grave when hypertension is due to renal disease than in hypertension due to vascular disorder

3 The cause of death is generally cardiac failure and apoplexy in about equal number

4 Blood pressure of over 200 mm of mercury is of grave significance mortality above 200 being double that below Diastolic pressure of over 100 mm is an even more serious manifestation

URSCHEL D L Emotional hypertension study of group of high school boys
J.Indiana M A 38 128 130 April 1945

Blood pressure studies on a group of high school boys demonstrated the effect of excitement on the systolic blood pressure These boys were examined in a group in 1941 and 1942 In the first year when the procedure was new to them average systolic pressures were high while in 1942 they had fallen and changes in diastolic pressures were not significant The systolic pressure is much more susceptible to environmental and emotional factors than is the diastolic pressure

VAKIL R.J Xiphisternal ache or low substernal pain (7 cases in hypertensive heart disease)
Indian M Gaz 76 199-203 April 1941

Xiphisternal ache or low substernal pain may be defined as an ache or pain in the region of the Xiphisternum of inconsistent duration and moderate intensity with no tendency to radiation not associated with feelings of constriction or impending dissolution induced as a rule by emotion or exertion and followed in most instances by tenderness at the site of pain Seven cases of hypertensive disease of the heart exhibiting this form are described The condition is liable to arise in an individual of a hypertensive type

VAN BOGAERT A & VAN BAARLE F Suprarenotropic pituitary hormone in cerebrospinal fluid in human and canine arterial hypertension
Acta med.Scandinav 104 462 480 1940

A report of experiments designed to test the presence of pituitary corticotrophic hormone in the cerebrospinal fluid of patients with essential hypertension Evidence of its presence would be the detection of appropriate changes in the remaining adrenal glands of hypophysectomized rats from which the contralateral glands had been removed subsequent to hypophysectomy but prior to the injection of human hypertensive cerebrospinal fluid The appropriate changes were not found in enough cases to sustain the hypothesis of direct anterior pituitary pathogenesis of hypertension

VAN BUCHEM F.S P The hypertensive diencephalic syndrome (Page)
Acta med scand 130 575 583 No 6 June 26 1946

The author presents 10 case histories of the hypertensive diencephalic syndrome described by Page

The syndrome may involve a far greater increase in basal metabolism than reported by Page

Frequently the diagnosis of thyrotoxicosis is wrongly made As a rule the author found in these patients a normal or high cholesterol content of the blood instead of a lowered one generally found in thyrotoxicosis

VAN EPPS E F HYNDMAN O.R & GREENE J.A Clinical manifestations of paroxysmal hypertension *associated with pheochromocytoma of adrenal* report of proved and of doubtful case

Arch.Int.Med 65 1123 1129 June 1940

Paroxysmal hypertension is usually curable if it is diagnosed before irreparable vascular damage has occurred The symptoms are frequently similar to those accompanying functional anomalies The manifestations - subjective and objective of paroxysmal hypertension have not been duly stressed These manifestations and the diagnostic aids are emphasized and one case of proved and one of doubtful pheochromocytoma are reported
Charts

VAN ESVELD L W Role played by heart and vasomotor center in increased blood pressure produced by low carbon dioxide concentrations

Arch f exper Path u Pharmakol 147 317 330 1930

The increase of blood pressure in pithed cats with severed vagi and low carbon dioxide supply can be attributed to a vaso constriction caused by the excitation of the vasomotor center Blood pressure increases are absent in animals with anesthetized vasomotor centers However the minute volume increases
Graphs

VAN HARREVELD A & DANDIKER W.B Pressure changes during electronarcosis

Proc.Soc.Exper.Biol & Med 60 3913 94 Dec 1945

Blood pressure during the first phases of electronarcosis shows large and complicated variations mainly caused by the simultaneous stimulation of the sympathectic system and the vagus nerves The possibility that humoral mechanisms other than those at the autonomic nerve endings are active in producing these pressure changes is considered in this article

A comparison of the blood pressure rises in the electronarcotised and test an mals during electronarcosis and after the injection of adrenalin shows that the rise during electronarcosis (after elimination of the vagus effect) can be explained only partially by humoral mechanisms It must be mainly a nervous phenomenon

The considerable drop in pressure occurring when the high initial current is reduced may be due to a period of decreased responsiveness of the sympathetic system after the strong stimulation Normal stimuli and those set up by the lower maintenance current would then be unable to maintain a high or even normal blood pressure

The second maximum in blood pressure may be caused by impulses produced in the sympathetic by the smaller maintenance current after this system has recovered from the effects of the high initial current
Charts

VAUGHAN W T & GRAHAM W.R Hypertension in the South

South.M.J 23 1140 1146 Dec 1930

There seems to be scattered evidence that hypotension is more frequent in the South than in the North The possible causes for an increase in the South are average build certain regional disease prevalences especially malaria pellagra and colitis heat humid ty and the intensity of sunlight
Tables

VEGA DIAZ F Alternating orthostatic hypotension and hyperthyroidism of probable hypophysial hypothalamic origin

Brit M.J 1 169 171 No 4595 Jan 29 1949

A clinical case is described in which a *juvenile orthostatic* hypotens on syndrome with orthostatic syncopes was followed by a slight nuptial hyperthyroidism accentuated during pregnancy at which time the orthostatic hypotension disappeared only to reappear when the former was cured by antithyroid medication

A hypothalamic origin is ascribed to both syndromes and the hyperthyroid sm and the attacks of paroxysmal tachycardia are explained as a teleological mechanism in defense in the gestation period

VERDA D.J KNEER L & BURGE W.E Effect of ultra violet radiat on on pressor action of epinephrine

J Pharmacol & Exper Therapy 42 383 386 Aug 1931

The authors exposed for various length of time adrenaline chloride 1 15 000 quart burner irradiation They found that irradiation of a strong *solution of* epinephrine decreases its pressor action and increases its depressor action due presumably to a weakening of the solution brought about by the destruction of the epinephrine by ultra violet

VILLARET M HARVIER P BARIETY M & JUSTIN BESANCON L Paroxysmal arterial hypertension *due to nervous excitement*

Bull et mem.Soc med d.hop de Paris 50 1548 1553 Dec 3 1934

This is a study of paroxysmal arterial hypertension due to nervous excitation in which the authors report clinical and experimental work They deal with their data accord ng to the following plan

1 Paroxysmal arterial *hypertension* of mixed pathogenes s adrenal secretion and vaso-constriction
(a) Peripheral nervous excitation (b) central nervous excitation

2 Paroxysmal arterial hypertension purely nervous in nature

Two case reports are presented and notable stud es from the literature are cited by way of emphasis and illustration

VINCENT S & CURTIS F.R Adrenin and the splanchnic nerve
J Physiol Lond 63 151 154 1927 1928

Minute doses of adrenin injected into the circulation produce a fall of blood pressure instead of the customary rise which occurs with larger doses but this fall occurs only when the animal is under the influence of certain anesthetics

It seems likely that small quantities of adrenin normally secreted by the chromaphil tissues if they produce any effect at all on the circulation might tend to keep the blood pressure at its normal level

VINCENT S & THOMPSON J.H Effects of music upon human blood pressure
✓ Lancet 1 534 537 March 9 1929

A study of continuous blood pressure readings taken while subjects were listening to recorded music The subjects were divided into three groups musical moderately musical and non musical

Each group was found to respond differently in relation to variation of volume melody rhythm pitch and type of music Influential factors in the manner of response were intelligent comprehension of and interest in music melody and volume effects
Illustrations and Tables

VINCENT S & THOMPSON J.H Further observations on the vasomotor reflexes and associated phenomena
J Physiol Lond 65 327 340 1928-1929

Experiments have been performed upon decerebrated cats after all traces of anesthetic have disappeared Stimuli corresponding as nearly as possible to those occurring normally have been applied to the nerves in testines skin and muscles under varying conditions The authors have found in the case of the nerve that the strong and weak and frequent and infrequent laws hold good and that there is a possibility of the size of the nerve affecting the nature of the response The results of kneading the intestine show that the amount and period of exposure and the amount of stimulation and denervation have well defined effects
Graphs

VIPOND A.E The blood pressure in boys and girls before and at puberty and in children who suffer from various diseases
Am.Med .Burlington Vt n s xviii 382 389 1923
The author states

1 The blood pressure is raised progressively as a young girl approaches puberty the heart enlarges especially the left ventricle and the second sound at the base is accentuated

2 In pneumonia and other febrile diseases the blood pressure is raised in the primary stage but after the crises in pneumonia and during the beginning of convalescence in diphtheria the blood pressure is very much lowered

3 In whooping cough the blood pressure is raised while the child is at rest and enormously raised during the paroxysm

VISSCHER M.B & RUPP A The respiratory wave in arterial blood pressure
Proc.Soc.Exp.Biol N Y 21 275 1923 1924

In experiments in which the inferior vena cava the superior vena cava and the azygos veins were clamped separately and in combination it was found that there was absolutely no sign of these changes on the arterial pressure trace for a period on the average of 3 heart beats Very evidently there is a latent period of 3 heart beats in this process

Changes in arterial pressure were similarly recorded when variations were artificially produced in the thoracic cavity Similar latent periods were observed

These experiments were repeated upon animals with denervated hearts and the same observations made excluding a nervous factor

It is evident that the effects of inspiration may show up entirely in expiration and the effects of expiration in the succeeding inspiration The heart respiration ratio determines in what phase of respiration the various changes will appear

Many published arterial pressure tracings have been examined and it has been found that this explanation is quite valid in interpreting them

VISSCHER M.B RUPP A & SCOTT F.H The respiratory wave in arterial blood pressure
Am.J Phy iol .Balt lxx 586 606 1924

It appears probable from the evidence available that the respiratory wave in arterial blood pressure is the result of a number of factors affecting the output of the heart Most important is the lowered intra thoracic pressure facilitating the flow of blood to the atria of the heart Second in importance is the effect of the condition of the lung vessels on the flow of blood from the right to the left side of the heart

The inspiratory act produces a rise in blood pressure and the expiratory act a fall
Tables and Charts

VOLHARD F Der arterielle Hochdruck
Verhandl d deutsch Gesellsch f innere Med Munchen xxxv Kong 134 184 1923

The author states that arterial hypertension is based on an increased resistance of the vascular system which is almost always functionally conditioned by the constriction of the small arteries and arterioles The writer continues to discuss the cau es of the vasoconstriction the mechanism involved in it the reasons for the vasoconstriction and its consequences

VOLINI L F & FLAXMAN N   Effect of nonspecific operations on essential hypertension
J.A.M.A 112 2126 2128 May 27 1939

The symptomatic relief and reduction in blood pressure resulting from nonspecific surgical measures (e g hysterectomy prostatectomy cholecystectomy) in the presence of essential hypertension are similar to and sometimes better than those obtained by specific procedure (extensive sympathectomy splanchnic nerve resection celiac ganglionectomy) performed especially for those purposes in the treatment of essential hyper tension The author believes that the evidence presented justifies doubt of the medications for specific surgical treatment of essential hypertension and the results obtained from it
Tables

VOLPITTO P P WOODBURY R A & ABREU B.E   Influence of different forms of mechanical artificial respiration on blood pressure
J.A.M A 126 1066 1068 Dec 23 1944

1 Seven different forms of mechanical artificial respiration were studied for the influence on the pul monary and systemic blood pressure A new technique for measuring the effe tive pulmonary and systemic blood pressure in laboratory animals not operated on and unanesthetized was employed

2 Irrespective of the method of mechanical artificial respiration employed recovery of the animal was accomplished when respiratory arrest and slow weak cardiac contractions were produced with helium No significant change in pulmonary and systemic blood pressure was produced with any of the methods of re usci tation studied when cardiac and respiratory arrest occurred either by helium or by electrically induced ven-tricular fibrillation

3 Any blood flow which was produced by the resuscitation did not reach the coronary and cerebral ar-teries Instead blood was pushed towards the extremeties and cutaneous areas

4 Intrapulmonic positive pressure greater than 10 to 12 mm Hg if maintained for a prolonged period of time may hinder the venous return to the right side of the heart

5 The so called milking action of the intrapulmonic positive negative type of resuscitator did not effectively increase the return of blood to the heart
Diagram Charts

VON BUDAY L   Heredity and blood pressure
Deutsch med Wchnschr 62 387 388 March 6 1936

The sex of parents and children plays a part in the heredity of blood pressure The low blood pressure of the father seems to be dominant over the higher blood pressure of the mother in the inheritance of the sons It seems that the blood pressure is dominant in members of the sa ne sex

VON DIRINGSHOFEN H   Influence of great acceleration of speed during flying on blood pressure
Ztschr f.Biol 95 551 566 1934

Description of a method of register ng systolic blood pressure pul e and breathing of pilots in flight The reading verify the great increase in blood pressure and pulse frequency during accelerated flights

VON DIRINGSHOFEN H & BELONOSCHKIN B   Increase in blood pressure as result of psychic excitation before aerial flight
Klin Wchnschr 11 1465 1466 Aug 27 1932

The blood pressure readings of student immed ately before their first flight show that their pressure in creased on the average of 21 mm systolic and 12 mm diastol c

Even the blood pressure of exper enced test pilots before fl ght increased by 32 mm systolic and 5 mm diastolic
Tables

VON EULER U S   Central depressor action adrenal n and its inhibition by ergotoxine (ergot preparation)
J Physiol 92 111 123 Feb 16 19 6

The secondary fall in blood pressure after moderate intravenous doses of adrenalin in the rat it persists after denervation of the carotid sinuses and cutt ng of the depressor nerves The effect is suppressed by th division of the vagi in the neck and is abolished by atropine

The effect is explained as being caused by st mulation of centers governing vasodilation and cardio inhibit ory effects due to restriction of the blood supply by vasoconstriction

Stimulation of the peripheral end of the vagi intrathoracically below the heart causes a fall in bloo l pressure in the rabbit wh ch is abolished by atropine enhanced by eserine and not affected by small doses of ergotoxine

Small intravenous doses of ergotoxine or ergotamine suppress the secondary fall after adrenaline pro bably by a central depressant act o on the vagus center

Arterial injection of adrenal n or KCN to the centers produces a fall in blood pressure which is not pre vented by section of the vagi or by atropine The same effect is brought about by severe anoxia and is explained as due to depression of the vasomotor tone This effect is not abolished by small injections of ergotoxine into the general c rculation but centrally njected ergotoxine may suppress the effect on adrenalin directed to the centers by antagonizing its action on the cerebr l vessels
Charts

VON STORCH T.J C CARMICHAEL E.A & BANKS T.E   Factors produ ing lumbar cerebrospinal fluid pressure in man in erect posture
Arch.Neurol & Psychiat 38 1158 1175 Dec 193

The outer envelope of the cranial vertebral system is semi rigid The volumetric alterations within this system are minute on change from the recumbent to the erect posture The normal lumbar cer brospinal fl id pressure with the subject sitt ng erect b ars no simple relationsh p to the recumbent pressure The lumbar pressure in the sitting position is approximately equivalent to the vertical distance between the cist rn magna and the po nt of puncture Engorgement of the intracranial veins in man with increased intracranial venous and

cerebrospinal fluid pressure does not alter the total elastic response of the craniovertebral system on assumption of the erect posture Engorgement of the lumbar intradural veins in man does not alter the normal lumbar cerebrospinal fluid pressure in the erect position Collapse or distention of the vertebral dura of man plays no more than a secondary role in the production of the lumbar cerebrospinal fluid pressure in the erect position In the presence of a complete subarachnoid block in the upper thoracic region the lumbar cerebrospinal fluid pressure in the erect position is quantitatively normal
Graphs Illustrations

WACKER L & FAHRIG C *Comparison of mineral and lipoid constituents of serum in essential hypertension and in physiologic conditions*
Klin Wehnschr 11 752 766 April 30 1932
The authors examined the content of blood serum for sodium potassium calcium magnesium chloride Rhodan and the synthesis of lipoid in 12 cases of hypertension in 19 normal persons The calcium in essential hypertension is not reduced The magnesium content increases a little the sodium and Rhodan remains constant The cholesterin contents of the blood serum increased in 75% of the cases of essential hypertension however this should not be interpreted as the cause of the blood pressure increase

WAGENER H P Nature and significance of retinal lesions associated with hypertensive disease
Tr Am Acad Ophth 44 54-74 1939
The changes visible ophthalmoscopically in patients with elevated blood pressure are primarily demonstration of disturbed physiology of the arterioles whether the hypertension is of the so called primary type or is secondary to inflammatory renal or endocrine disease The lesions in the arterioles are always primarily and possibly in large part at all times of functional nature
On the basis of present knowledge retinitis which occurs in association with elevation of blood pressure can be explained logically only as being a manifestation of some form of decompensation of the retinal circulation If the kidneys have any direct influence in the development of retinitis it must be through the elaboration of a thus far hypothetic effective substance

✓ WAGENER H P Retinal vascular changes
Ann Int Med 4 222-226 Sept 1930 abst Proc Staff Meet Mayo Clin 5 203 July 23 1930
Visible sclerosis of the arterioles not secondary to primary disease of the optic nerve of the retina or of the choroid coat is practically always evidence of hypertensive disease This sclerosis of the retinal arterioles has been demonstrated to be a part of a similar degree of sclerosis of the arterioles throughout the body
The retinitis which occurs in hypertension may be divided into those dependent on local vascular disease and those associated with arterial vasoconstriction The latter indicate progressive hypertension and two forms are distinguishable one is associated with benign hypertension and the other with malignant hypertension
The best opportunity for the study of the angiospastic process visible in retinal vessels is afforded by cases of hypertension in toxemia of pregnancy A similar picture is seen in a few cases of apparently essential type of hypertension
The author discusses the characteristics of retinitis of benign hypertension as distinct from those of malignant hypertension He points out that there are apparently some cases of rapidly progressive hypertension in which the typical malignant findings are not seen
In conclusion he writes it must be admitted that arterial constriction or spasm is the most dangerous element of hypertensive disease that it may be the primary factor that results in arteriosclerosis and that it is largely responsible if not for the hypertension itself at least for the retinal cerebral and renal complications

WAGENER H P & KEITH N M Diffuse arteriolar disease with hypertension and associated retinal lesions
Internat Opth Cong (1937) 1 1 86 1938 Medicine 18 317 430 Sept 1939
A summarization of the general features of hypertensive vascular renal disease and the basic principles involved in the origin of the disease and in the initiation of its retinal complications The authors present
1 Historical resume
2 Mechanisms involved in the production of pathologic elevation of blood pressure
3 Heredity in hypertension
4 Toxemia of pregnancy
5 Acute vasospastic disease with hypertension
6 Essential hypertension
Bibliography Illustrations Tables

WAGENER H P & KEITH N M Cases of marked hypertension adequate renal function and neuroretinitis
Arch Int Med Chicago xxxiv 374 387 1924
Several case histories are presented of patients with severe neuroretinitis which show little or no evidence of renal insufficiency They have marked hypertension moderate peripheral arteriosclerosis and cardiac hypertrophy but their condition differs definitely from those with chronic diffuse glomerular nephritis From the history clinical and laboratory finding and subsequent course these patients appear to constitute a distinct clinical group
Tables

WAHL H.R & CURPHEY W C Pathology in hypertension
J Kansas M.Soc 35 161 164 May 1934
The etiology of hypertension and the cellular changes in the glomeruli and the arterioles is apparently the same It would appear most likely that both are the result of the same common agent Thi common agent in a few cases may be a paraganglioma of the adrenal gland If the action of the common toxic agent persists it produces an anatomical change in the arterioles and glomeruli in sufficient amount to make the hypertension permanent even if the toxic agent disappears

WAKERLIN G.E & BRUNER H.D Question of presence of pressor substance in blood in essential hyper tension
Arch.Int.Med 52 57 65 July 1933
The action of thirty blood serums from patients with essential hypertension and of fifteen serums from patients with normal blood pressure on the tone of arterial segments from the mesenteric arteries of bees was studied No significant differences were found in the vascular constricting properties of the hypertensive and of the normal serums The results suggest that there is no peripherally acting pressor substance in the blood of patients with essential hypertension Some evidence was obtained for the residence of a spontaneous rhythmic motor activity in arterial musculature deprived of its extrinsic innervation
Graphs

WAKERLIN G E & JOHNSON C A Reductions in blood pressures of renal hypertensive dogs by hog renin
Proc.Soc Exp.Biol.Med 46 104 112 1941
Daily intramuscular injection of hog renin for four months produced striking reduction in the blood pressure of renal ischemic hypertensive dogs whereas heat inactivated hog renin and active dog renin were without effect
No toxic manifestations resulted from renin treatment or from the red ctions in blood pressure The serums of the dogs treated with active hog renin neutralized the acute pressor effect of renin in assay animals The mechanism of these reductions in blood pressure is not clear Most probably an immune (antihormone ?) respon e to heterologous hog renin is involved
Tables

WAKERLIN G.E & JOHNSON C A Antiserum for dog ren n
Am.J Physiol 129 390 1940
Partially purified extracts of the renal cortex of the dog when injected intravenously or intramuscularly into rabbits evoked percipitin which react with the blood ps udo globin present in such extracts and also an anti body which negates the pressor effects of these extracts This effect on the pressor response to renin is ob erved in both normal dogs and nephrectomized dogs wh ch were given ntravenous injections of anti serum with renin and kept at 4 degrees centigrade for 24 hours Follow ng recovery from ether anesthesia for arterial cannulation mean blood pressure readings were recorded from the femoral artery of the dogs In all dogs it was noted that (a) the m xing of normal rabbit serum w th dog renin has no effect on the pressor r sponse (b) the mixing of anti serum with dog renin definitely diminishes or abolishes the pressor response (c) the mixing of anti serum with rabbit renin also d m n shes the pressor respon e The anti serum was somewhat less effective versus rabbit renin than dog re in The anti serum was found to have no effect on the pressor action of vasopressin
These observations suggest that the rabbit is able to produce a sub tance which counteracts the pressor effect of ren n perhaps a specif c anti body for renin

WAKERLIN G E JOHNSON C A MOSS W G & GOLDBERG M L Renal extracts (h ghly or partially puri fied renin) in exper mental renal hyper tens on
J Pharmacol & Exper Therap 81 101 110 June 1944
The authors found that the antihypertens ve effect of partially purified hog renin in rer al hypertensive dogs was definitely super or to highly purified hog ren n suggest ng that the active pr ncipl is in the non renin fraction
Partially purified heat inactivated hog renin posse ses moderate anti hyperten ive activity indicating that the a tive principle is partially heat stable Partially pur fied dog ren n is not antihypertensive in three times the effective dose of hog kidney suggest ng e ther that th concentrat on of the art hypertensive principle is considerably less n do kidney or that some type of immune response not evoked by homologous renal extract is involved
Hog liver extract prepared after t he manner of partially pur fied renin was ineffective antihypertensively suggesting that the antihypertensive potency of the hog renal extracts is not due to a foreign protein effect and that the potency is specif c for kidney A role for antirenin in the antihyperten ve mechanism is largely excluded
Tables

WAKERLIN G.E & MOSS W G The role of the nervous system in experimental hypertension in the d g
Fed Proc 7 82 83 1948
A variety of techn ques for the study of the role of the nervous system have been employed in an analysis of its role in the maintenance of the blood pressure level in experimental renal hype tension The results bear out the following conclusions The applications of var ous drugs which produce surgical anesthesia in dogs demonstrates by the changes in pressure levels that there is no quantitative d ffe ence in the role of the nervous sy tem n the m intenance of the blood pressure level in norm tensive early renal hyperten ive or late renal hypert ns ve dogs There s a large increase in the role of the nervous system in the me intenance of the p essure level in neurogenic hypertensive dogs Blocking th vasomotor outflow between th central n rvous system and the blood vessels causes changes in the blood pre sures of dogs which also demonstrate no i creased role

for the nervous system in the maintenance of the blood pressure level in renal hypertensive dog in either early or late stages Neurogenic hypertension is again shown to involve an increased role of the nervous system Studies of reflex mechanisms in normotension and late renal hypertension how little difference in the responses to hypercapnic and cold stimulation The responses of early renal hypertensives to these stimuli are somewhat less Insofar as these experiments are concerned the role of the nervous system in the maintenance of the blood pressure level in experimental renal hypertensive dogs does not appear to differ from its role in normotensive dogs

WAKERLIN G.E & OTHERS Treatment of renal hypertension with partially purified renin (kidney extract)
Am.Heart J 25 1 15 Jan 1943

1 For the first time experimental renal hypertension was prevented in 6 of 15 dogs by the daily intra muscular injection of certain partially purified renin solutions for 3 months before and 3 months after con striction of the renal arteries

2 Liver extract prepared like partially purified renin offered no protection to 3 dogs all of 16 un treated control animals developed experimental renal hypertension after constriction of the renal arteries

3 Daily intramuscular injections of partially purified hog renin solution for 4 months or more pro duced striking reductions in the blood pressure of renal hypertensive dogs

4 The mechanism of the prophylactic and therapeutic effects is not now apparent They may be due to renin or to ome other substances or substances in the partially purified renal extracts Anti renin is almost certainly not involved

5 Attempts to identify the active principle or principles in the renin solutions and to clarify the mech anisms involved are being made

Charts

WALD H GUERNSEYS M & SCOTT F.H Effects of alterations of posture on arterial pressure
Am Heart J 14 319 330 Sept 1937

On changing from the recumbent to tanding position the systolic pressure is from 5 to 40 mm Hg below the recumbent level about 10 seconds after the change There is a rapid recovery after the initial drop and after about 30 seconds many have regained or passed the recumbent level In some few cases the recovery is slower Diastolic pressure usually rises slightly on standing The same type of reaction is seen when the subject are tilted into the vertical posture but the pressure is greater and the recovery less Prolonged quiet standing is a severe strain on the circulation as shown by the frequency of fainting Reflexes from the carotid sinuses and arch of aorta are responsible for the reactions leading to the recovery of the pressure

Graphs

WALKER G A Pathologic physiology of hypertension
J Kansas M Soc 45 167 171 May 1944

The author emphasizes the function of the kidney in the cause of hyperten ion Goldblatt experiments are discussed in some detail The author mentions briefly the function of renin globulin and angiotonin in the production of hypertension

WALKER L.M The medical management of essential hypertension
J.M Soc.N.Jersey 45 454 456 No 9 Sept 1948

An appraisal of the anatomic and physiological changes which have occurred in the heart arterioles and kidneys is of prime importance before instituting therapy The treatment of hypertension can be stated as rest physical and physiologic The author writes that psychotherapy is probably the number one therapy especially since so few drug are of any use

WALKER W O & O HARE J P The incidence of infections in hyperten ion
Boston Med & Surg.Journal 190 23 966 971 June 1924

From the results obtained in a series of 400 controlled and 400 hypertensive cases the authors say that the relative incidence of various infections in past histories of these patients does not indicate that infections play a very important part in the causation of hypertension It is possible to infer that the greater incidence of acute and chronic rheumatism in the hypertensive cases indicates a great susceptibility of these patients to the development of hypertension

The relatively high incidence of typhoid fever in Thayer s Barrach s and the authors cases is noteworthy and may mean that this disease actually plays a part in the production of hypertension

The far greater incidence of syphilis in the authors control cases than in the hypertensives is particularly noteworthy because of the prominent part ascribed by some to the disease in the causation of high blood press ure

Tables

✓WALL H C Renal concentration test using solution of posterior pituitary
Arch.Int Med 7 454 459 April 1943

A renal concentration test using solution of posterior pituitary is de cribed This test is applicable without the necessity of previously depriving the patient of water and in the presence of edema or ascites The results obtained for normal subjects for patients suffering from hypertension without impairment of renal function and for patients who had impaired renal function compare favorably with the result obatined with the Fishberg and Phenosulfonphthalein tests The advantages and contraindications are also described

Tables

WALTER C W & PIJOAN M J   Persistent hypertension due to hypothalamic injury
Surgery 1 282 283 Feb 1937

A report of observations on a dog with a resultant hypertension due to direct injury to the hypothalamus Five weeks following injury to the hypothalamus the blood pressure had risen from a normal level to 242/130 Attendant symptoms and conditions are described by the authors

For purposes of comparison blood pressure responses to various stimuli were carried out on dogs with hypertension due to renal ischemia and on normal controls The animal with hypothalamic injury showed more labile response to various stimuli There was an increase in pulse rate in the case of the animal with hypothalamic injury under nembutal anesthesia The dogs with hypertension due to renal ischemia showed a more fixed type of hypertension with but slight change under nembutal anesthesia or following various stimuli
Table

WANG C H   Hypertension among Chinese general consideration and statistical survey
Chinese M J 50 140 148 Feb 1936

58 cases of hypertension were studied statistically There is some evidence to show that incidence of cardiac disease hypertensive cardiovascular disease and arteriosclerosis appears to be in the increase

Essential hypertension is rare but certainly occurs in China
Tables

WARR O S   Practical management of hypertension
New Orleans M & S J 79 907 910 June 1927

The author discusses the following

I Etiology (a) Heredity (b) Age (c) Occupation (d) Habits (e) Infections (f) Obesity
II Management (a) Prophylaxis (b) Rest (c) Diet (d) Chlorides (e) Fluids
III Drugs (a) Iodides (b) Nitrites (c) Chloral hydrate (d) Purgative (e) Liver extracts
IV Physiotherapy
V Psychotherapy

WARREN J V & STEAD E A JR   Interpretation of mechanisms producing edema increased plasma volume and elevated venous pressure in certain patients with prolonged congestive failure
Arch Int Med 73 138 147 Feb 1944

Edema develops in chronic congestive failure because the kidneys do not excrete salt and water normally This disturbance is related to the decreased cardiac output and not to engorgement of kidneys from an increased venous pressure

An increase in the plasma volume is a manifestation of retention of salt and water Resulting decrease in the concentration of plasma proteins usually stimulates production of plasma protein so that the total amount of circulating protein increases Plasma volume is now increased without marked lowering of osmotic pressure of plasma proteins

In due time an increase in blood volume and extracellular fluid volume causes rise in venous pressure The osmotic pressure of plasma proteins and increased pressure of extracellular fluid provide physical forces enabling large plama volume to be maintained in the presence of high capillary pressure resulting from high venous pressure

Local differences in venous pressure are importance in that they determine placement of salt and water retained by kidneys in congestive heart failure

Others factors than retention of salt by kidneys account for the rise in venous pressure in acute heart failure In many patients a rise in venous pressure represents summation of the effects of acute and chronic heart failure

WASHINGTON E L CALLAHAN W P JR & EDWARDS E W   Pheochromocytoma of adrenal medulla role in pathogenesis of malignant hypertension
J Clin Endocrinol 6 688 693 Oct 1946

A case of pheochromocytoma of the adrenal medulla is presented The onset of illness is typical - paroxysmal hypertension became permanent and shortly after attempted removal of the tumor the patient died without clinical evidence of uremia The unusual features found were the pathological finding of widespread necrosis of the arterioles and associated hemorrhages without evidence of uremia and of malignant transformation in the tumor characterized by invasion of the right adrenal vein and of the inferior vena cava An epinephrine like substance was demonstrated in the tumor

Investigators postulate that the prolonged discharge of vasopressor substance from the tumor may produce changes in the arterioles resulting in permanent hypertension The continued release of this substance after development of a permanent elevation of the blood pressure may be responsible for the production of arteriolar necrosis and hemorrhage without presence of uremia

Although the tumor had undergone malignant transformation the typical hormone symptom complex was present

WASTL H   Detoxication of local anesthetics protective action of intravenous injection of calcium salts on respiratory and circulatory effects of pontocaine hydrochloride (procaine derivative)
Anesthesiology 2 74 79 Jan 1941

In the present report the protective effect of calcium salts on the systemic toxicity of pontocaine hydrochloride were investigated by means of intravenous injections Cats served as experimental animals

The effects of pontocaine hydrochloride on respiration circulation and mortality in the cats (under urethane narcosis) with and without previous intravenous injection of calcium salts are presented These calcium salts raised the mean initial blood pressure between 20 0 and 29 8% whereas the initial respiratory rate decreased between 14 and 24% the respiration remaining regular and becoming slightly deeper Detailed observations are described concerning the minimum lethal dose of pontocaine hydrochloride given alone and after premedication with calcium salts

WATKINS R M Institutional physiotherapy as adjunct in treatment of hypertension
Ohio State M.J 26 604-606 July 1930

The study was undertaken with the view of demonstrating that various types of physical treatment which usually can be carried out best in an institution well equipped for the purpose should not be neglected in dealing with patients suffering from arterial hypertension Essential hypertension responds best to this form of treatment secondary hypertension responds poorly and temporarily The literature confirms this observation

The physical measures employed to reduce blood pressure are discussed Report is made of the results of physiotherapeutic treatment in 11 cases Each patient felt better after the series of treatments systolic blood pressure being lowered in all cases average diastolic blood pressure being lowered in all but 3 cases Less advantage was derived from treatment by patients who suffered from arteriosclerosis than by those who suffered essential hypertension

The author concludes that physical measures are valuable adjuncts to our methods of treatment of high blood pressure

WEBER C.J NANNINGA J.B & MAJOR R.H Isolation of crystalline depressor substance from brain
Proc.Soc.Exper.Biol & Med 30 513 515 Jan 1933

It has been shown that a depressor substance is present in certain extracts from brain tissue The authors state that they have recently obtained from these brain extracts a crystalline compound which possesses a marked depressor action upon the blood pressure of dogs under ether anesthesia They describe the procedure employed to obtain the active depressor substance in crystalline form

They report that both large and small crystals have the same depressor activity 0 1 mg of each kind of crystal caused a fall of 8 mm Hg in blood pressure in a dog weighing 12 kilos under ether anesthesia while 0 5 mg produced a fall of 40 mm Hg

WEICHMANN E & PAAL H Bestehen Wechselbeziehungen zwischen der Hoehe des Tag und Nachtblutdrucks und der zugehoerigen Harnmenge ?
Zschr ges exp Med 50 197 206 1926

A study to determine the possible correlation between day and night blood pressure and the amount of urine No correlations were found in hypertensive and hypotensive persons showing no sign of cardiac insufficiency The reason for blood pressure decrease at night can be found in the relaxation of the vascular tonus Tables

WEISS E Psychosomatic aspects of hypertension
Am Pract 2 19 24 Sept 1947

The author defines the psychosomatic approach and points out its relation to hypertension The psychosomatic aspects of the clinical picture of hypertension are discussed headaches constipation vertigo cardiac neurosis The article ends with a consideration of the psychosomatic aspects of treatment emphasis being placed on the common problem of the presence of emotional tension due to chronic repressed hostility

WEISS A Psychosomatic aspects of hypertension
✓ J A M A 120 1081 1086 Dec 5 1942

Two psychic tendencies seem to stand in close relationship to hypertension anxiety and rage Long continued repressed rage may manifest itself through the circulatory system by elevation of the blood pressure

Although all varieties of character and neutoritc disturbances occur in hypertensive individuals a common problem seems to be the presence of emotional tension due to chronic repressed hostility This inhibited oppression seems to bear a specific relationship to hypertension and if it can be turned outward by means of psychotherapy anxiety is diminished and blood pressure is often lowered

WEISS E Cardiovascular lesions of probable psychosomatic origin in arterial hypertension
Psychosom.Med 2 249 264 July 1940

A few cases are reported by the author to emphasize the necessity for psychological study of patients with organic cardiovascular disease because the psychic factor may be even more important than the physical factor in producing incapacity They are also intended to suggest that cardiovascular lesions occurring in arterial hypertension may be preceded by psychic events that are related not only in time but also specifically to the personality of the patient

WEISS E Recent advances in pathogenesis and treatment of hypertension review
Psychosom Med 1 180 198 Jan.1939

An extensive review of the literature on hypertension in which the author present and comments upon the following aspects of the disease

I Pathogenesis (1) Race climate constitution and heredity (2) Peripheral resistance and the question of nervous control (3) The renal origin of hypertension (4) Pressor substances renin (5) Endocrine glands and hypertension adrenals pituitary gonads

II Treatment (1) Drugs (2) Surgery

III Psychic factors in hypertension

WEISS H.B Familial vascular disease with report of 2 families
J.Med 13 464-467 Nov 1932

The tendency to vascular disease has been suggested as appearing in a definite manner influenced by the Mendelian law

Two families are presented with a high proportion of vascular disease which the author assumes is hereditary

WEISS H.B Clinical aspects of blood pressure
Ohio State M.J 25 191 194 March 1929

1 General discussion of systolic and diastolic pressures and their normal range

2 Discussion of hypertension etiology classification of hypertension relation of hypertension to renal disease

3 Discussion of hypotension

4 Medical treatment

The paper is followed by a review of the literature relative to the etiological factors of hypertension presented by T L.Ramsey M.D Toledo

WEISS M.M Problem of angina pectoris in Negro
Am.Heart J 17 711 715 June 1939

A study is presented of the problem of the relative infrequency of angina pectoris in the ambulatory Negro with essential hypertension

The incidence of angina pectoris is low in both Negro and white patients with hypertension who attend the same outpatient clinic The syndrome occurred in 2 8% of 314 Negro patients and 4 8% of 246 white patients with essential hypertension

A lack of ability to fully describe and interpret the sensation of cardiac pain can entirely explain the relative infrequency with which angina pectoris is encountered in the Negro charity patient as compared with the white patient
Tables

WEISS R F Differences in constitutions of hyper- and hypotonic pati nts
Med Klin 24 451-452 March 23 1928

Th s is a discussion of Kylin s theory that the formation of both hyper and hypotension can be found in a primary disturbance of the vegetative system and that one condition might lead towards the other condition According to the author hyper and hypotension are in no way related but are outgrowths of different constitutional and hereditary factors The vegetative nervous system plays a part in both conditions but is only of secondary importance

WEISS S Recent advance in treatment of arterial hypertension
M Clin.North America 19 1343 1365 March 1936

The discussion is restricted to an evaluation of attempts recently undertaken for the treatment of uncomplicated hypertension

The paper is divided into the following sections

I General consideration of therapeutic measures

II Chemical ubstances

III Dietary measures

IV Surgical measures A Procedures to influence the hormonal production of glands of internal secretion B Operations for the purpose of influencing nerve impulses of the vasomotor system C Critique of the surg cal treatment of arterial hypertension

An analysis of evidence presented justifies the conclusion that the majority of drugs used in hyperten ion do not fulfill therapeuti requ sites outlined their routine use in hypertension is not advisable

The value of surgical procedures is not yet firmly established

The rational management of hypertension consists in intelligent and environmental management of the patient by means of rest periods diet psychotherapeutic guidance and sedation The numerous complications of hypertension should receive specific consideration

WEISS S Etiology of arterial hypertension
✓ Ann.Int.Med 8 296 314 Sept.1934

1 *Role* of circulating chemical substances Among the theories that have interested investigators the author reviews those relating to guanidine cholesterol potassium-calcium ratio peptones epinephrine and pituitrin thyroid secretion vasoconstrictor substances of undetermined nature alcohol and tobacco and lead

2 *Role of ne-vous system* Role of hypoactivity of carotid sinus and of other depressor reflexes is not supported by clinical studies an increased pressor nervous mechanism is based on fair evidence though psychic trauma and conflict as well as abnormal sensitivity of psyche play a part personality and emotional factors alone do not provide an adequate explanation

3 Reactivity of vascular system mechanical factors Mechanical factors of increased peripheral resistance play a role in arterial hypertension In addition to changes in minute vessels there may be a progressive loss of elasticity and of propulsive action of aorta and other large vessels At present the exact mechanism of hypertension induced from the k dney and urinary tract is not known

4 The role of infections and vascular allergy Evidence that infections play a role in the majority of instances is lacking Cla ms for allergy likewise cannot be substantiated

5 Con titution The fact that extensive investigations have failed to reveal any single factor which regularly causes hypertension strengthens the importance of the role of the constitution Detailed knowledge of this role is still lacking

The author comment The relative role of these factors varies considerably The present evidence indicates that in the great major ty of instances involutionary and senescent changes are active in the constitutionally pred sposed individual
Extensive bibl ography

/EISS S   Nature and management of cerebral hemiplegia in patients with arterial hypertension
M Clin.North America 13 111 137 July 1929
The most frequent clinical manifestations of cerebral hemiplegia in patients with arterial hypertension ith or without associated arteriosclerosis have been demonstrated The correlations between the functional nd morphologic changes in the brain and the clinical picture of hemiplegia have been analyzed Localized ressure changes edema vascular spasm and thrombosis *are factors responsible for temporary* damages in odily functions The clinical behavior of certain patients as well as recent observations in man indicate that ie minute vessels of the brain are capable of changing their lumen considerably when under the effect of hemical substances
The preventive measures and therapeutic management of hemiplegia are presented

'EISS S DEXTER L PARKER F.JR & TENNEY R.JR   Arterial hypertension in pregnancy and hyper tensive toxemia syndrome of pregnancy (pre eclampsia and eclampsia)
Tr A Am Physicians 55 282 288 1940
The conclusions presented in this report are the result of a 2 year investigation on 100 normal persons ith and 100 without generalized edema during pregnancy *The cardio vascular system and the renal function* s indicated by the usual tests were normal in all 200 control persons The authors reviewed the extensive nd conflicting literature to be able to relate their results to the works of others
Toxemia (the vascular syndrome) of pregnancy (pre eclampsia and eclampsia) differs in its characteristics 'om other types of clinical hypertension
The experimentors have gathered evidence that the toxemia of pregnancy can induce permanent hyper nsion Morphologic changes characteristic of toxemia of pregnancy are present in the placenta kidneys and ver The renal changes consist of a type of glomerulo nephrosis Among causative factors chemical sub tances originating in the placenta are suspected of being responsible for the syndrome

'EISS S & PARKER F.JR   Relation of pyelonephritis and other urinary tract infections to arterial hyper *tension*
New England J.Med 223 959 967 Dec 12 1940
The chemical cause of pyelonephritis varies considerably Whereas in most cases the disease is benign nd self-limiting at times it becomes chronic leading to arterial hypertension and to renal and cardiac in ufficiency Tuberculosis of the kidneys infections of the renal pelvis hydronephrosis and cystitis are usually ot responsible for arterial hypertension Children with low reserve kidneys of years duration caused by yelonephritis may have disturbances of bone formation with deformities (renal rickets) but the characteristics f these changes differ from those of true rickets Acute pyelonephritis per se is usually not responsible for oxemia of pregnancy It has an indirect relation to toxemia and eclampsia in so far as it predisposes to rterial hypertension and to low reserve kidneys
harts

'EISS S PARKER F.JR & ROBB G P   Correlation of hemodynamics function and histiologic structure of kidney in malignant arterial hypertension with malignant nephro sclerosis
Ann.Int.Med 6 1599 1633 June 1933
A case of malignant arterial hypertension with malignant nephrosclerosis is reported in which left neph ectomy was performed because of unilateral bleeding and suspected malignancy It has been demonstrated iat malignant hypertension is a diffuse disease of the vascular system with characteristic lesions in a number f organs The clinical cause of the disease the function of the kidney and the histological analysis of the inute blood vessels of the kidneys and other organs in this case of malignant hypertension indicated a tendency) fluctuate between improvement and relapses A concept is presented which correlates and interprets inctional and structural changes observed in malignant nephrosclerosis with arterial hypertension

/ELLS H.S YOUMANS J.B & MILLER D G.JR   Tissue pressure (intracutaneous subcutaneous and intra muscular) as related to venous pressure capillary filtra tion and other factors
J Clin.Investigation 17 489 499 July 1938
The paper deals with measurement of the pressure in muscle as well as in superficial tissues of the leg he authors discuss the following
1 Subcutaneous pressure
2 Intramuscular pressure (a) in the normal relaxed subject in the recumbent posture (b) effect of enous pressure on intramuscular pressure (c) the relation of intramuscular pressure to capillary filtration d) direct and indirect effects of muscular contraction on intramuscular pressure
llustrations Tables

/ERNER A A   Adrenal hypercortical and hypermedullary (es ential hypertension) syndrome
J.Missouri M A 32 434 437 Nov 1935
A description of adrenals and the major milestones in experimentation and discovery of their function nd structure Histological description
Symptoms *of adrenal cortic hyperfunction* since tumors or hyperplasia of secreting cells of the thyroid parathyroids and *islet cells of the pancreas* have been proved to produce hyperfunction in many instances it is reasonable to suppose that a comparable *condition* of the suprarenal medullary tissue could and would cause its specific effects of which hypertension seems to be the most dominant Reported cases proved by operation con firm this assumption

WERNER M Frequent appearance of labile blood pressure (tendency of blood pressure to rise temporarily above norm) in persons with labile vegetative nervous systems studi s on young patients
Deutsches Arch f klin Med 174 289 299 1932
The labile blood pressure manifests itself in a readiness to increase under various conditions The examination of the vegetative nervous system shows that the lability of the blood pressure and a definite lability of the vegetative system especially the vascular system go together
Tables

WESTON R E ESCHER D J W (et al) Hypertensive vascular disease its clinical course differential diagnosis pathogenesis and treatment
Med Clin N America 33 309 333 March 1949
An extensive review article with 109 bibliographic references covering the following aspects of hypertensive vascular disease (1) Definition (2) Classification of conditions in which hypertension may be present (3) Incidence (4) Natural history (5) Clinical course of essential hypertension (cardiac cerebrovascular renal and retinal symptoms) and clinical course of secondary hypertension (arterial disease coarctation of aorta endocrinopathy) (6) Differential diagnosis (history and physical examination laboratory tests special procedures) (7) Pathologic physiology (8) Treatment medical and surgical

WETHERBY M Blood pressure comparison in men and women statistical study of 5 540 individuals
Ann Int Med 6 754 770 Dec 1932
The statistical analysis shows an increase in mean value of systolic and d astolic blood pressure with age the most marked rise occurring a decade earlier for women than for men
The absolute variation is greater for women than for men There is a statist cally significant difference in mean value for men and women after 30 to 40 years of age
Tables Graphs

WHEELON H The interpretation of blood pressure variations with ol servat ons on normal pressure variation and the relation of the adrenals and the autonomic nervous system to the product on of blood pressure
N York M J (etc) cxiii 505 513 1921
The author describes certain experimental observations relative to the production and control of a normal pressure and the application of physiological principles derived therefrom as interpretative measures in a consideration of the clinical variations of blood pressure findings The following topics are discussed
1 Influence of the heart on blood pre sure
2 Influence of vaso motor apparatus on blood pressure
3 Influence of chemicals on blood pressure
4 Clinical considerations

WHITE B V JR & GILDEAN E F Cold pressor test in tension and anxiety cardiochronographic study
Arch Neurol & Psych at 38 964 984 Nov 1937
A study of the pulse rate in six groups of subjects was made (a) at rest (b) du ing a minimal emotional stimul is (c) during immersion of one hand in a bowl of ice water The subjects were grouped on the basis of subject ve and somat c symptoms of tension and anxiety and on the presence or absence of ps chosis
The subjects wh were susceptible to anxious and tens onal symptoms had h gher initial heart rates an i the rates increased more during stimulation than did those of the control group The irregularity of the interval between the ndividual heart beats increased in all the groups during the period of minimal emotional stimulation Among non psychotic patients uffer ng from symptoms of tension and anxiety this increase was iustinct ively large

WHITE P D Management of essential hypertension
Ann Int Med 27 740 748 Nov 1947
The management of essent al hypertension is di cussed as follows
I Simple measures
1 The most important consideration con erns the education of the patient
2 Institution of a program of leisure for routine daily l ving
3 Physiotherapy of var ous types ncluding baths will induce relaxation
4 Sedat on and sleep are important
II Other measures of current interest
1 Psychotherapy results look prom sing but a definite decision would be premature at this stage
Die (a) Reduction of we ght n the obese is an effective and helpful measure for reduction cf blood pres ure (b) Low prote n diet nd sodium restriction the author presents the contem rary view
3 Drugs the effect veness of edatives n trites thiocyanates tetraethyl ammonium salts an l ; riscol is discu sed and eval ted
4 Symp thectomy From a 3 sappointing beginning it has evolved to its present effective p sition largely because of Sm thwick s introduction of the more extensive procedure of luml odrosal sympathectomy

WHITE S M Medical problem and manage nent in essential hypertension
Surg Gynec & Obst 5 332 339 No 2A Feb 1936
The author discusses the pathological and histological aspects of essential hypertension from the point of vi w of lifferential diagnosis This leads to a consideration of the etiological factors concerned i its possible renal or gin its relat on to interral secret ons the part played by heredity and predisposing constitutions He writes The opinion is expressed that heredity acting through excessive pressor responses on the part of the nd vidual is the dom n nt factor in produc ng this cond tion (Essential hypertension)

The cold pressor test of Hines and Brown is outlined In the succeeding discussion of the management of hypertension emphasis is placed on the early labile phases and includes individuals who show hyperreactivity The author feels that the proper emphasis in the management of essential hypertension lies in the control of the frequency and character of the emotional stimuli and of the affective pressor response He outlines his own approach to the problem which lies primarily in understanding the patient problem and in attempting to alleviate the stresses and strains involved in his life He cites also two case histories in which the principles were applied satisfactorily

WIGGERS C.J Physiology in health and disease Chapter XLI hypertension
Lea and Febiger Philadelphia Oct 1944

A general chapter dealing with the physiology of hypertension The aspects of hypertension which are dealt with are

1 Definition of hypertension and classification of the disease
2 Physiological aspects
3 Experimental hypertension
4 Nature of the humoral agent exciting blood pressure
5 Effects of angiotonin
6 Mechanism of clinical hypertension
7 Dynamic chracteristics of the hypertensive state
8 Structures affected by hypertension
9 Structural and functional changes in hypertension
10 Cardiac effect

WIGGERS C.J Basic hemodynamic principles essential to interpretation of cardiovascular disorders Ludwig Kast lecture of cardiovascular disorders
Bull.New York Acad.Med 18 3 17 Jan 1942

The following principles are dealt with

1 Systolic and diastolic pressure readings and optical records of central arterial pulse are defined and discussed and stress laid on their interdependence in the search for full blood pressure information

2 Hypertension is defined as an increase in blood pressure concomitant with an increase in pulse pressure

3 Therapeutically acceptable blood pressure reducing agents must reduce total peripheral resi tance and not act on the heart alone

4 Definition and discussion of mean pressure

5 Mathematical representation of reciprocal of total peripheral resistance is presented and considered

6 Interconnection of peripheral resistance capacity of aorta and minute output of heart in elevations of mean arterial pressure is considered and adequate indications of changes in total peripheral resistance are discussed

WIGGERS C.J Physical and physiological aspects of arteriosclerosis and hypertension
Ann.Int.Med 12 30 July 1932

A survey and review of known physical and physiological consequences of arterial disease

Physiological Factors in Hypertension

1 Evaluation of arterial elasticity
2 Functional nature of increased peripheral resi tance
3 Hemodynamic and cardiodynamic effects of increased arterial rigidity

Physiological Factors in Cardiac Hypertrophy

1 Hypertension must be preceded by an increased metabolic rate
2 Alterations in caliber of peripheral vessels is ultimately the predominant factor responsible for left ventricular hypertrophy

Physiological Factors in Clinical Hypertension

Careful evaluation of experimental and clinical evidence leads to the conclusion that circulatory changes in clinical hypertension are usually produced by the combined effects of increased peripheral resistance and the decreased elasticity of aorta

Physiological Principles in Treatment

1 The compensatory character of clinical hypertension cannot be ignored in treatment of the condition
2 Lowering of blood pressure by drugs and other therapeutic procedures defeats the purpose of a natural compensatory mechanism and may at times be dangerous

WIGODER S.B Blood pressure and effect of Erlangen treatment on it in cases of malignant disease
Brit.J.Radiol 32 359 364 Oct 1927

The object of the research was to determine the blood pressure of persons suffering from malignant disease and the effect of the Erlangen Method of Deep Ray Therapy on the blood pressure of those patients The author finds that

1 Previous to treatment the patients who suffered from malignant disease had low systolic and diastolic pressures so that the pulse pressure was high

2 During Erlangen treatment there was a primary rise of pressure

3 After treatment the pressure fell lower than it had been previous to treatment and the following resulted

A The fall was greatest after 24 hours
B The fall varied with the site irradiated
C The fall was greater in the more wasted patients
D There was a gradual return to normal
E The pulse pressure varied

Table

WILKINS R W & CULBERTSON J W Effects of surgical sympathectomy upon certain vasopressor responses in hypertensive patients

Tr A Am Physicians 60 195 207 1947

Vasopressor responses to blood pressure - lowering stimuli were measured with continuous recordings of arterial pressure and cardiac output in 39 hypertensive patients before and/or after various types of sympathectomy Judged by the amount of hypertensive overshoot that followed the stimuli the responses after thorough splanchnic denervation were either abolished or markedly reduced After less extensive operations the responses were less affected It was concluded that such vasopressor responses are normally mediated in part by the splanchnic sympathetic nervous system It was suggested that the abolition of these responses might be therapeutically beneficial to hypertensive patients by avoiding peaks of arterial pressure during which vascular rupture or other types of damage might occur

WILKINS R W CULBERTSON J W & HALPERIN M H The hemodynamic effects of sympathectomy in essential hypertension

Ann Int M 30 291 306 No 2 Feb 1949

Laboratory studies of the hemodynamic effects of sympathectomy in hypertensive patients have revealed

1 Little change in basal cardiac output
2 An early increase and later moderation in hepatic portal blood flow
3 A decrease in the splanchnic vasoconstrictor response to the upright position
4 A decrease or abolition of vasopressor overshoots of arterial pressure after depressor procedures

The postoperative effects are similar whether or not arterial pressure is lowered except that hepatic portal blood flow apparently is influenced directly by the level of the arterial pressure

These results along with the reported st idies on renal blood flow ind cate that the direct hemodynamic effects of splanchn cectomy do not account for any lowering of arterial pressure that may occur However it is entirely possible that in some patients indirect chemical or phys cal mechanisms resulting from these hemodynamic effects may in time act to c use a widespread decrease in peripheral resistance and a lowering of arterial pressure

WILKINS R W CULBERTSON J W & SMITHWICK R H The effects of var ous type of sympathectomy upon vasopressor responses in hypertensive pat ents

Surg Gynec & Obstet 87 661 668 Dec 1948

The purpose of this study was to determ ne the effects of surgical removal of various organs of the sympathetic nervous system upon the vasopressor respor ses of patients to standard stimuli In thi way t was hoped to demonstrate the roles played by different parts of the sympathet c nervous system

The subjects were patients mainly hypertensive selected for surgical ympathectomies of various types They were stud ed before and after operat on Arterial pressure was measured by Hamilton manometers cardiac output was estimated with the ballistocardiograph and respiration and expiratory pressure was recorded by su table tambours placed in the same optical system A number of sympathetic nervous stimuli was applied

Vasopressor reactivity of a subject is markedly decreased or abolished after extensive b lateral sympathectomy and less affected by less extensive symj athet c denervations The grade of vasop essor reactivity is not necessarily relate l to the resting level of arterial pressure of a subject

Tables and Charts

WILKINS R W & DUNCAN C N Nature of arterial hypertension produced in normal subjects by administra t on of angiotonin

J Clin Investigation 20 721 738 Nov 1941

Angiotonin was administered intravenously by single injection 150 times in 40 subjects and by continuous infusion 14 times in 14 subjects Some 15 to 30 seconds after an injection of angiotonin arter al pre sure began to rise and reached a peak in two minute roughly proport onal to the amount of ang oton n injected Systolic pressure rose somewhat more than diastolic resulting in an increase in pul e pressure

Angiotonin administered intravenously produces in normal subjects arterial hyperten ion which can be controlled by regulating the rate of administration Th s art rial hypertension is accompanied by an nere se of venous pressure and frequently other s gns of myocard al failure Bradycardia is present which is probably vagal n origin Sp nal flu d pressu e is not significantly altered The electrocard ogram reveals no important changes except bradycardia Sk n temperature usually decreases yet is responsive to changes in body temperatures Blood flow measured p ethysmographically in the l mbs tends to decrease but remains under the control of the sympath ti nervous system Reactive hyperemia blood flow increases with a rise of arterial pressure Pressor response to cold t st of Hines and Brown is not altered dur ng the hypertension Mild symptoms of dizziness s bsternal oppress on nausea or palpitation may be noted The effects subside 4 to 10 m nutes after the cessation of admin strati n wh ther by single injection or by continuous infusions Injected ntradermally ang oton n produces local blanching of the skin Injected intra cuteri lly it produc s vasoconstriction in the muscular parts suppl ed by the artery

WILKINS R W FREIS E D & STANTON J R Essential hyp rtension laboratory studies in human beings with drugs recently introduced

J Am M As 140 261 265 No 3 May 21 1949

Two preparat ons which have been invest gated by the authors veratrum viride and d hydroergocornine are descr bed The former leads to generalized but integrated v sodilation the latter inhibits sympathetic vasoconstrictior Both are effe tive by mouth adequately last ng in action and are suitable for long term clinical trial Despite their shortcomings both drugs have been of sufficient aid in cases of severe hypertension to merit investigat on of the r pharmacologic propert es

Both are capable of lowering the arterial pressure of certain hypertensive patients witho t reducing except in t ally th e card c output or the blood flow through the kidneys liver or extremities as measured in the hor zontal pos tion A discussion of the nature and mode of action of veratrum viride and dihydroergocornine is presented

Charts

WILKINSON K.D   Prognosis of hyperpiesia
Practitioner 158 476-481 June 1947

When it is certain that an individual has a persistent hyperpiesia it is safe to say that if this condition is discovered before the age of 40 years the outlook is not good even though the patient is symptomless and shows no other abnormality A second generalization is that at all ages women with raised blood pressure have better prospects than men with similar pressures The general rule is that a high pressure goes with a slow pulse a rapid pulse carries with it a less satisfactory prognosis In a man arteriosclerotic retinitis carries a poor prognosis papilloedema hemorrhages and retinal degeneration suggest that the prospects are very bad

WILLIAMS A W   Heart disease in native population of Uganda hypertensive heart disease
East African M J 21 328 & 368 Nov Dec 1944

Hypertension both essential and renal is found in natives of Uganda Both chronic nephritis and urethral stricture are common among them Between them they account for the majority of the cases of high blood pressure Essential hyperten ion is less common in Uganda natives than among European and Asians but is encountered more frequently than is usually supposed The hypertension of pregnancy toxemia is however extremely rare

WILLIAMS A W   Blood pressure of Africans
East African M.J 18 109 117 July 1941

Data were obtained from the examination of several hundred healthy Africans in Uganda It is presented together with relevant information quoted from the literature on thi subject

The main conclusion is   A fairly wide range of arterial blood pressure is to be found among the African population of Uganda and the average pressures are not significantly different up to the age of 40 or 50 years from those of the people of Europe or North America In the older age group the steady rise of systolic press ure usually shown in European standard tables is lacking in East Africa

The author also deals briefly with the relationship between blood pressure and bodily stature and climatic environment He also comments on infections diet mental and endocrine make-up way of life attitude and color of the skin in relation to blood pressure
Tables and Charts

WILLIAMS D & LENNOX W G   Cerebral blood flow in arterial hypertension arteriosclerosis and high intracranial pressure
Quart.J.Med 8 185 194 July 1939

This is an attempt to compare the cerebral blood flow of suitable groups of patients with that of normal series Simultaneous samples of blood were obtained from an artery and from an internal jugular vein in 40 patients with intra cranial pressure arterial hypertension or cerebral arteriosclerosis and from a control group of 41 persons without any of these disorders Result.

1 The total cerebral blood flow of the groups with arterial hypertension and high intracranial pressure was normal

2 The group with cerebral arteriosclerosis had a mean cerebral blood flow 157 below that of the normal group

It is therefore concluded that cerebral blood flow is not significantly altered by high intracranial pressure arterial hypertension or by cerebral arteriosclerosis without hypertension The mechanism whereby cerebral blood flow is maintained at constant level in spite of extreme factors tending to the contrary is discussed
Tables and Charts

WILLIAMS J.R.JR GROLLMAN A & HARRISON T.R   Pressor properties of extracts from normal and from ischemic kidneys
Arch Int Med 67 895 906 May 1941

Unilateral renal ischemia was produced in dogs and rats Fractions were prepared from such kidneys either by extraction with a solution of sodium chloride or by precipitation with alcohol and their pressor action determined

Extracts from the ischemic kidney of the dog had distinctly greatly pressor effect than those from normal kidney of the same animal When necrosis was present the abnormal kidney had less efect than the normal one

Extracts from normal kidney of rat had as much or more pressor effect compared with those of ischemic kidney of the same animal provided the fractions were tested soon after preparation

Both dog and rat kidneys displayed one important similarity on standing the normal kidney usually be came less pressor those from ischemic organ more pres or

When enzymatic processes were reduced to a minimum by rapid freezing and desiccation of the kidneys while frozen the extracts had practically no pressor effect However such inactive freshly prepared extracts if allowed to stand usually developed a well marked action

The authors suggest that the divergent results obtained by previous investigators in regard to the relative pressor activity of normal and ischemic kidneys is apparently due to a difference in the species of animals used as a source of kidneys and secondly changes occurring in the activity of the extracts after preparation

The apparent renin content of an extract (as measured by its pressor action) is extremely variable It may increase or decrease with time and may even be absent under certain conditions
Charts

WILLIAMS R.H & HARRISON T.R   Study of renal arteries in relation to age and to hypertension
Am.Heart J 14 645 658 Dec 1937

This is an attempt to approach the problem of the relationship between elevated blood pressure on the one hand and renal arterial disease on the other from the histological standpoint This has been done in a quantita tive study of the arteries arterioles and glomeruli in section from the kidneys of elderly subjects with benign hypertension of middle aged individuals with malignant hypertension and of young persons with hypertension associated with glomerulonephritis

WILLIAMS T J Management of hypertensive toxemias of pregnancy
West Virginia M J 38 97 101 March 1942

Using the terminology of the American Committee on Maternal Welfare which is now commonly accepted the author discusses the two general groups of hypertensive toxemias Where (a) the disease is not peculiar to pregnancy and (b) where the disease is peculiar to pregnancy The following subjects are discussed

(1) *Hypertensive disease* (2) *Renal disease* (3) *Where pregnancy should be terminated* (4) *Pre eclampsia* (5) Restrictions (6) Method of termination (7) Eclampsia (8) Subsequent cause and treatment

WILLIAMS T J NIX H G & MAUZY C H Incidence of hypertension after toxemias of pregnancy
Am J Obst & Gynec 42 98 103 July 1941

The hypertensive toxemias of pregnancy *seem to be characterized essentially by a generalized arteriolar* spasm Age and parity of the patient at the time of the toxemia seem to be the most significant factors in the incidence of subsequent hypertension The younger the patient the less the chance of permanent hypertension whereas the older the patient the greater the chances approximately 80% of those above 35 years of age having hypertension

The severity and the type of the toxemia except in instances of previously known chronic nephritis or essential hypertension seem of no special significance in the frequency of hypertension The height of the systolic and diastolic pressures at the time of the toxemia except at the very high levels seem to play only a small part in the incidence of later hypertension

Except in cases of previously known nephritis and hypertension there are no definite criteria by which the possibility of permanent hypertension following the toxemia can be predicted with certainty although in general the chances are much less in the young primapara whereas the chances in the older multiparous individuals particularly those who repeat their pregnancies are much greater Individuals having had toxemia hould be observed afterward if hypertension persists additional pregnancies should be very carefully prenatally regimented On the other hand approximately 50% of the patients will have no persisting hypertension and may go through subsequent pregnancies without ill effects or permanent damage
Tables

WILLIS J D Management of vascular hypertension
Va M Monthly 64 505 507 Dec 1937

The author covers briefly the various methods of treatment of vascular hypertension rest and relaxation diet removal of infections moderate exercise avoidance of emotional stress use of various medicines and surgery

The remainder of the article is devoted to a statement of information assembled almost entirely from the abstracts of articles by A W Adson and E V Allen published as proceedings of the staff meeting of the Mayo *Clinic* He outlines their classification of cases of hypertension and considers the possible treatment for the various stages of the disease He presents results of observations made by Adson and Allen on 31 of their *patients* who upon failure of medical measures underwent surgical operation by the Adson *technique* for extensive sympathectomy

WILLIS J D Depressor substance of liver in treatment of high blood pressure
Virginia M Monthly 57 361 365 Sept 1930

Essentials of preparation standardization and chemical analysis of anabolism used in treatment of hypertension by the author over a period of *3 years*

In laboratory animals when the blood pressure has been elevated from an injection of methylguanidine blood pressure will *slowly* fall to normal after injection of liver extract but does not go below normal unless a very large dose is employed Liver extract is not toxic even in large doses The author discusses the extreme usefulness of liver extract in *treating hypertension* and associated subjective complaints He also advocates its use in case *of temporary hypertension* in the belief that recurrences of transient high blood pressure are forerunners of permanent hypertension

Over a period of 3 years the author has treated a series of 150 cases with anabolin and has been able almost without exception to bring about *reasonable* symptomatic relief in a vast majority and a very marked reduction in the state of hypertension

WILLIUS F A Heart in old age study of 700 patients *75 years of age* and older
AM J M Sc 182 1 12 July 19 1

A study based on 700 patients The ages of the patient ranged from 75 to 96 years

70 3% of the patients had systolic pressure of 140 mm or more The mean blood pressure ranged from 109 to 127 8 mm

The author *comes to the conclusion* that hypertension is the rule in aged patients
Tables

WILSON C & BYROM F B Renal changes in malignant hypertension experimental evidence
Lancet 1 136 139 Jan 21 1939

An experiment in which sustained hypertension has been produced in rats by partial occlusion of one renal artery Histological changes are *often found* in *the opposite kidney and these appear to be iedentical* with the lesions *of* malignant hypertension in man The authors conclude that these changes are due to the vascular strain imposed by a rapidly develop*ing hypertension* renal failure apparently plays no part in their origin These findings *strengthen* the conception of malignant hypertension as a form of essential hypertension in which the renal lesions are a secondary manifestation

The *similarity* both clinical and histological which frequently characterises the terminal stages of various forms of chronic Bright s disease is *attributed* to a vicious circle in which hypertension produces renal vascular lesions and these by further reducing the blood flow through the kidneys aggravate the hypertension and lead to rapidly progressive renal destruction and functional insufficiency
Charts

WILSON C L & CHAMBERLAIN C T   Unilateral renal ischemia (due to atrophic pyelonephritis) associated with hypertension case
J Urol 47 421 430 April 1942
The authors report on the case of a 12 year old girl with severe hypertension 230/170 The similarity in pathology in this case and that in experimentally induced hypertension in dogs is striking Retinal changes clo ely approximate pathological changes in the hypertensive dog s retina The microscopic renal findings especially in regard to the arteriolar changes are in complete accord with the experimental findings of Gold blatt Sclerotic changes involved large arteries as well as arterioles as is demonstrated by unmistakable thickening of the radial arteries It is a safe assumption then that arterial changes were widespread throughout the body The hypertension appeared in association with unilateral renal ischemia due to atrophic pyeloneph ritis Removal of the pathological kidney appears to have resulted in a sustained diminution in the blood press-ure to the normal levels From the appearance of the retinal vessels during the past 12 months it is obvious that definite residua will remain permanently The authors feel that a neurosurgical approach to the problem is not valued because it attacks a econdary rather than a primary factor and sympathectomy can produce im provement only in proportion to the degree to which it can increase the renal blood flow

WILSON C & PICKERING G W   Acute arterial lesions in rabbits with experimental renal hypertension
Clin.Sc 3 343 355 Aug 1938
This paper describes the occurrence of acute arterial lesions in adult female rabbits with experimental renal hypertension (produced essentially by the Goldblatt method) Kidney changes and arterial changes are presented in detail and the following summary statements made
1 Acute arterial lesions structurally identical with those of malignant hypertension in man were found in rabbits with arterial hypertension produced by renal artery constriction The incidence of lesions is related to degree of hypertension but not to duration of hypertension
2 The lesions were frequent and severe mostly in intestine but were also found in stomach liver supra renal heart and eye absent in kidney renal artery to which has been constricted
3 The authors suggest that greatly raised intra arterial pressure is a chief factor in determining these lesions in human and experimental hypertension
Tables and Charts

WILSON R   Pathological and clinical observations on hypertension
South.M.J 17 313 319 1924
There is a definition and discussion of classification of hypertension
The author mentiones that pathological changes which take place in the arterial walls are not distributed uniformly In some cases and it may be when the tension is not excessive the cerebral vessels suffer the most serious damage while in others the renal circulation bears the brunt of the injury The effects of hypertension depend upon the extent and the localization of the vascular damage and the symptoms when present are the result of the disturbance of function in the organ or organs involved This will explain why so many patients with very high pressure are comfortable and symptomless while others whose pressures are much lower ex perience great discomfort or perhaps suffer fatally

WILSON R McN   Youthful hyperpiesis
Am.Med ,Burlington Vt n s xviii 368 370 1923
Discussion of the symptoms of a marked tendency to cyanosis in patients In a number of patients a peri pheral stasis occurred The author comes to the conclusion that the more immobile the chest and the more bulging the belly the higher the blood pressure tends to be The patients were fitted with belts around their waists and then showed a reduction of blood pressure

WINDER C V   Quantitative observations on extravagal component of carotid sinus pressoreceptive cardiac restraint
Am.J Physiol 124 421-426 Nov 1938
This report is concerned with the quantitative curve form of the reflex relationship between endosinual pressure and total extra vagal chronotropic cardiac restraint
The extra vagal component (sympathetic and humoral) of carotid pressoreceptive chronotropic cardiac restraint has been studied quantitatively in dogs anesthetized with morphine and urethane Major secondary factors were controlled by means of carotid body exclusion (embolization) constant aortic blood pressure and pulmonary ventilation and total vago sympathetic aortic denervation
The curve relating endosinual pressure and extra vagal heart slowing by a single carotid sinus was sig moid and parallel with those relating endosinual pressure to total (vagi intact) cardiac slowing vascular de pression and respiratory depression The maximal slowing was approximately 8*
Charts

WISHNOFSKY M   Autonomic nervous system in hypertension
M.J & Rec 131 209 211 Feb.19 1930
The relation of the autonomic nervous system to hypertension is discussed The adrenals and thyroid gland are not concerned in the pathogenesis of high blood pressure The ovary is apparently intimately associ ated with the causation but the nature of the mechanism is not understood
Patients suffering from high blood pressure complicated by nephritis react to adrenalin with a marked rise in blood pressure This is not true of cases of essential hypertension
The autonomic nervous system is apparently not concerned in the etiology of high blood pressure

WITTKOWER E   Limits possibilities and results of psychotherapy in polyclinical treatment
Klin Wchnschr 8 197 20? Jan 29 1929

The author describe 2 cases of asthma treated with psychotherapy and then discusses severel cases of hypertension and nervous stomach treated the same way

Very often even if the blood pressure cannot be lowered with psychotherapy the accompanying symptoms such as headaches dizziness and insomnia can be eliminated

WOHL M G   *Hyperthyroidism masked as (a) malignant hypertension (b) auricular flutter as illustrated by 2 cases*
M Clin.North America 17 751 758 Nov 1933

1 Case of patient presenting a clinical picture of cardiac decompensation and auricular fibrillation as is often observed in patients with hypertension Aven after long ob ervation there is difficulty in determining (a) whether a hypertensive vascular disease or (b) hyperthyroidism complicating the hypertensive state exists

The histologic examination of thyroid tissue on the course of the disease indicates that condition is of the formes frustes basedowi type Thyroidectomy did not apparently lower the arterial tension Thyroidectomy has been recommended in malignant hypertension

2 Case of a patient with auricular flutter which is logically attributed to the hyperthyroidism since no other etiologic factor could be elicited as a cause of the cardiac state With X ray and iodine therapy the cardiac condition consistently improved

Cardiac disturbances in hyperthyroidism are of frequent occurrence The sinus tachycardia premature extra systoles and murmurs may not necessarily indicate serious cardiac damage Fibrillation and flutter are however of greater clinical significance Next to mitral stenosis thyroid intoxication is the second common cause for fibrillation
Plates

WOLF S & HARDY J.D   Pain due to local cool ng and factors involved in cold pressor effect
J Cl n.Investigation 20 521 533 Sept 1941

A report on a study of the phenomenon of pain due to local cooling known conveniently as cold pain The pain is conveniently produced and owing to its pred ctable character lend itself to analysis

The authors summarize their results as follows A deep aching pa nful sensation is induced by immersing a part of the body in cold water The behavior of this phenomenon is found to follow a definite pattern namely that regardless of strength of stimulus pain reaches its maximum in approximately 60 seconds Thereafter the pain gradually subs des giving way to a sensation of pins and needles which soon in turn i terminated The intensity of the pain and the total amount of pain were found to depend directly upon the degree of cooling with adaptation occurring when the difference between the hand and water temperature was small Warming the hand or lowering the bath temperature abolished the protective effect of adaptation The mechanism wereby the pain is produced and the reason for its adaptation were investigated

Among the author conclusions are the following Pain due to local co ling is altogether separate from the sensation of cold itself Its intensity however depends directly upon the degree of cooling It appears that the cold pressor effect is a measure of reaction to pain
Charts

WOLF S PFEIFFER J.B (et al)   *Hypertension as a re ction pattern to stress summary of exper mental* data on var at ons in blood pressure and renal blood flow
Ann Int.M 29 1056 1076 No 6 Dec 1948

Study of a random sample of 58 hypertensive patients of the New York Hospital All were suffering from essential hypertension *Compar sons* were carried out with 4? non hypertensive healthy ndividuals and 100 subjects with vasomotor rhinitis and bronchial asthma The clinical course was stud ed over a 3 year period from the standpoint of overall *reac* ity to threats a ising out of the problems of day to day living

Observations were made as follows (A) Relation of blood pressu e levels to att tude emotion. and life situation (B) Measurement of *re al hemodynamics* (C) Effects of sympathectomy (D) Simultaneous measurement of *cardiac output* (E) Nature of pressor stimulus variability of cold pressor effect (F) Personality features and rea *tions of* persons with arter al hypertension

It was found that the hypertensive patient meets the threats and challenges of life with an attitude of restrained aggression and *displays a* vascular react on characteriz d by elevat ons in blood pressure and renal vaso constriction
Charts

WOLFF L V   Systolic pressure n early infancy
Arch Pediat 47 165 170 March 1930

Knowledge concerning *blood press re* in infancy and early childhood is very scanty A s mple method for taking blood pressure in infancy is described and some results of cumulative blood pressure examinations of 60 normal infants during the f st 6 months of life are presented The arithmetical average for the systolic pressure rise gradually from 62 at b rth to 74 at 6 months

WOOD B M   *Dietet c* treatment of hypertension
Am.J.Nursing 28 333 335 Apr 1 1928

The author states the following rules No stimulating foods as condiments tea coffee and alcohol should be given to the pat ent The *frequent use* of orange and lemon juice is valuable to help furnish the necessary *alkal ne ash* in the body to reduce the tendency to an excess of acid ash with its injurious results

The protein of meat and fish *per day should* not be more than one ounce as introgenous extractives should be avoided *Salt except* in the water in wh ch vegetables are cooked should be eliminat d

WOOD J.E.JR CAPACCIO G.D & WEAVER W   Pressure and body weight determinations in congestive heart failure
Virginia M.Monthly 62 271 276 Aug 1935
Purpose of the paper to indicate briefly the significance of venous pressure determinations in certain patients with conge tive heart failure 12 cases with heart disease of some sort and with different degrees of heart failure were studied A control group of 10 patients without heart disease was used
The following conclusions are reached
1 Venous pressure determinations are helpful in the early diagnosis of congestive heart failure but prove more useful when used repeatedly to gauge prognosis
2 Venous pressure falls more rapidly than the body weight when the patient with congestive heart failure improves under treatment
3 Frequent body weight determinations serve as a more practical guide to the status of the edema fluid in a congestive heart failure patient than do measurements or urinary output
Tables Charts

WOOD J.E.JR & CASH J.R   Obesity and hypertension clinical and experimental observations
✓ Ann.Int.Med 13 81 90 July 1939
After a brief review of the literature the authors feel that a definite association is indicated between obesity and systolic blood pressure elevation in a fair number of instances They then report on their own observations over a period of 5 years on the blood pressure of both normal dogs and dogs with experimentally produced hypertension The following conclusions are reached
1 Systolic blood pressure in normal and hypertensive dogs rises with weight gain and falls with weight lo s while diastolic pressures vary little
2 These observations do not indicate that obesity is a cause of essential hypertension but support the idea that overweight may be a factor of importance in the elevation of systolic blood pressure
Tables and Charts

WOOD P   Right and left ventricular failure study of pressure
✓ Lancet 2 15-18 July 4 1936
This investigation was carried out to determine if the measurements of pulmonary circulation time and of venous blood pressure would throw light on the variations in the clinical manifestations of heart failure
The arm to tongue circulation time has been studied by means of decholin and the systemic venous blood pressure has been measured by the direct method in 93 cases of heart disease In 25 normal controls the arm to tongue circulation time was found to range between 9 5 and 18 seconds and averaged 13 5 seconds while the normal venous blood pre sure was 2 to 10 5 cm of blood and averaged 5 75 cm
Both the arm-to tongue circulation time and the venous blood pressure were within normal in 46 cases of heart disease of various types in which there was no clinical evidence of heart failure In 5 cases of myx oedema the arm to tongue circulation time was slightly prolonged

WOODBURY R A & HAMILTON W F   Blood pressure in small animals
Am.J Physiol 119 663 674 Aug 1937
A method is described for taking accurate optical manometric records of arterial and intraventricular blood pressure curves in small animals
Pressure pulse contours with systolic and diastdic blood pressure values are presented from the follow ing animals mouse rat canary sparrow robin pigeon frog turtle and carp
The blood pressure level is characteristic of the species and not of the animal
In warm blooded animals the rate at which arterial pressure descends during diastole is inversely cor related with the size of the animal relative volume of the Windkessel and with the length of diastole It is directly correlated with the pressure at the time of measurement in all animals
The volume ela ticity coefficient of the arterial system varies with pressure in a constant manner in any individual animal An equation is presented describing this relationship approximately
Pressure values pulse contours heart rates length of systole and diastole rate of pressure descent during diastole and the effects of pressure changes upon the volume elasticity coefficient were studied when animals were under the influence of excitement asphyxia and anesthesia
Tables and Charts

WOODBURY R A & OTHERS   Effects of posterior pituitary extract oxytocin (pitocin) and ergonovine hydra crylate (ergotrate H) on arterial venous and maternal effective placental arterial pressures in pregnant humans
J Pharmacol & Exper Therap 80 256-263 March 1944
This investigation was concerned with asking whether the widely used pituitary preparations to hasten delivery in the rare use of rear guard preparations before delivery is good obstetrics and whether the dan gers are serious and real There is discussion of some of the mechanisms preventing ischemia of the placenta
Rear guard and pituitary preparations can increase the force of uterine contractions to an intensity equi valent to or slightly greater than that normally present during delivery of the head However the danger of uterine rupture may be greater since these prolonged maximal contractions and the stress are forced upon the organ irrespective of its condition
Commonly used doses of pituitary and ergot preparations cause an abnormal uterine activity in some patients This abnormal activity seriously reduces the maternal effective placental arterial pressure and cause intra uterine asphyxia of the baby This danger is greater when the patient has hypotension or oxytocin is used in place of the whole posterior pituitary extract

WOODBURY R A ROBINOW M & HAMILTON W F Blood pressure of infants (new born)
Am J Physiol 122 472 479 May 1938

This study was undertaken in order to measure accurately the blood pressure at birth to establish a reliable method for clinical use in measuring the blood pressure of the new born to study the effect of certain drugs and to record the pressure changes which occur under various physiological and pathological conditions Optical registrations of arterial pressure pulse were obtained by the hypodermic manometer from 37 new born babies

WOODS W W & PEET M M Surgical treatment (by splanchnicectomy and sympathetic ganglionectomy)
J A M A 117 1508 1515 Nov 1 1941

76 consecutive patients with essential and malignant hypertension were operated on by bilateral supra diaphragmatic splanchnicectomy and lower dorsal sympathetic ganglionectomy and followed for 5 to 7 years

All cases were classified preoperatively according to four groups suggested by N M Keith based on retinal changes

Mortality statistics of each group over the 5 to 7 year period were compared with a similarly classified control group treated medically and described by Wagener and Keith

Statistical results of operation are also presented in regard to blood pressure reduction retinal changes relief of symptoms and incapacitation following operation Conclusions

1 Prognoses of patients with high blood pressure and angiospastic changes of retinal arterioles were much more favorable following operation than following medical treatment

2 Surgical treatment of patients with malignant hypertension resulted in survival of 33% after 5 years whereas following medical treatment in the control series the mortality was more than 99%

The author has devoted part of the paper to a discussion of the use of patient classification according to ocular fundus findings and concludes that funduscopic observations are of definite aid in prognosis of the patient with essential hypertension presenting himself for operation

WOOTER A C & DEIBERT A V Postural hypotension in tabes dorsalis case
Am J Syph Gonor & Ven Dis 27 618 622 Sept 1943

Case report of white male aged 38 years hospitalized with diagnosis of tabes dorsalis and mitral stenosis. Further investigation led to a diagnosis of postural hypotension The following special tests were performed breath holding cold pressor test blood pressure in recumbent position sitting standing blood pressure when patient prone over edge of bed with hands resting on floor chest x ray breathing carbon dioxide with aid of rubber mask carotid sinus pressure

Examination of 15 other patients with tabes dorsalis and taboparesis was carried out for purposes of comparison

WOOLLEY L F Immediate circulatory and respiratory effects of convulsive shock curare protected metrazol and electric shock
J Nerv & Ment Dis 100 1 23 July 1944

A detailed study of blood pressure pulse and respiratory phenomena accompanying curare protected convulsive shock The sample used consisted of 52 pulse respiration and blood pressure curves with curare alone more than 700 studies of pulse and respiration with curare followed by shock and 98 satisfactory studies of the blood pressure with curare followed by metrazol or electric shock

The author found great variability of reaction of the circulatory and respiratory apparatus both from individual to individual and from treatment to treatment in the same patient

Observations and conclusions are presented in detail together with protocols in chart form

WRIGHT A H Faulty diet and intestinal stasis in relation to high blood pressure
Am Med Burlington Vt n s xviii 377 382 1923

The author bases his article on the assumption that high blood pressure is a symptom and that there is a close relationship between it and intestinal toxemia digestion and assimilation

The simplest and best way to estimate food values is by the use of the term calories The author presents fuel values of proteins carbohydrates and fats and approximate caloric values of certain common foods

Consideration is given to and criticism made of simple diet tables with regard to quality balance and quantity It is pointed out further that individual idiosyncrasies with regard to diet should always be considered in dietary planning The nutritional aspects of vitamins and proteins are discussed

The amount of calories required per day for healthful living is considered and the author points out the dangers of excessive or unbalanced food intake

WRIGHT S Reflex activity in involuntary nervous system depressor reflexes
J Physiol 66 387 399 Dec 1928

An attempt to elucidate some of the processes which take place in the nerve centers of the involuntary nervous system by investigating the vaso motor effects of stimulating the central end of the vagus (cat) or the depressor nerve (rabbit)

Stimulation of the central end of the vagus (cat) or of the depressor (rabbit) resulted in a fall of blood pressure This fall was studied from the standpoint of the physiology of reflex action and particularly in the light of Sherrington humoral theory

Discussion is presented with regard to the general features of the depressor reflex and the effects of increase in the frequency of different stimulation and the effect of prolongation of the period of stimulation

Charts

WYCHGEL J.N Arterial hypertension in industry
J.Indust.Hyg 12 319-323 Nov 1930
The author concludes that
1 Arterial hypertension is an important problem in industry
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3 Re examination and reclassification are advisable in cases of hypertension
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YANOF Z.A Effect of exercise on blood pyruvic acid observations on patients with hypertension
Arch Int.Med 72 239 244 Aug 1943
Subjects of this experimental study were (1) Eleven wrestlers and trackmen 18 to 21 years (2) Ten individuals in sedentary occupation 19 to 54 years (3) Ten patients with cardiac disease and enlargement age 21 to 48 years (4) Nine hypertensive patients aged 31 to 51 years without cardiac enlargement or de tectable renal involvement but with systolic blood pressure exceeding 200 mm Hg Re ults
1 Ten minutes after moderate exercise a group of trained subjects had no significant change in blood level of pyruvate while trained subjects and patients with heart disease and with hypertension had in contrast marked rises of pyruvate in the blood
2 The 60 minute changes of the group of patients with heart disease were significantly high and were proportional to functional capacity
3 Blood pyruvate measurably increases after moderate exercise in untrained subjects and in patients with cardiovascular disease while lactate does not and thus estimations of pyruvate can be utilized in the study of cardiovascular fitness of untrained subjects and patients who are not capable of undertaking the strenuous exercise that measurement of blood lactate requires
Tables Charts

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Proc.Soc.Exper.Biol & Med 34 560 562 May 1936
Purpose of study to investigate incidence of excessive responses in a group of non hypertensive sub jects and to compare the average response of this group with the series reported by Hines and Brown in the American Heart Journal 1936 Vol 11 No.1
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The findings of the study indicate that non hypertensive older persons are as likely to give excessive responses to the cold pressor test as non hypertensive younger persons This suggests that as many of the younger subjects with normal responses may develop hypertension as those with excessive responses If this be true the original contentions of Hines and Brown would be invalidated
Tables

YEN T J KAIWA T & WADA M Influence of picure of Cl.Bernard upon epinephrine discharge blood sugar content and blood pressure
Tohoku J Exper.Med 17 345 377 May 1931
Bernard s puncture of the flow of the 4th centricle was tried in dogs non anesthetized non fastened and non laparotonized The epinephrine output rate the blood sugar the mean arterial blood pressure and the heart and respiration rate were simultaneously estimated
1 Piqure occasioned ab abrupt elevation in the blood sugar content
2 The epinephrine secretion rate was also accelerated
3 The mean blood pressure was also abruptly changed by puncture but its direction was not always the same that is either a rise or a drop was induced and at all events the change was only of short duration The pulse rate reduced largely and the respiratory rate was usually accelerated The body temperature frequently rose only a little
4 Ether anesthesia rendered largely obscure effects of puncture upon the blood sugar content the epi nephrine secretion and the blood pressure
Charts Tables

YONKMAN F F Sympatholytic treatment of experimental hypertension
Jour Lab & Clin.Med XXIX 1217 1944
This study is based on the hypothesis that if yohimbine and its congeners paralyze sympath t c control of the vascular bed after intravenous administration the same antisympathetic action m ght be obtaine l in hyper tensive animals after prolonged oral feeding of the drugs The result tl en should become manifest by a gradual reduction in blood pressure Results
1 Yohimbine hydrochloride 20 mg per kg when orally administered red ices the mean arterial tension of dogs rendered hypertensive by the Page technique of perirenal envelopment
2 Reduction of arterial tension was effe ted in 3 of 4 dog One was of real significance another of some, and the third was inconsequential these appraisals were made after 3 33 and 23 days of medication respec tively Sustained medication for longer periods would be desirable
3 The locus of yohimbine s pharmacologic action in this type of hypertension is probably in the neuro muscular receptors associated with sympathetic vasoconstrictors and is probably antiadrenergic or sympa tholytic in nature
Table Charts

YOUMANS W.B HANEY H F LINDGREN A.J & KARSTENS A.I Effect of adrenal demedullatio i on acceleration
Proc.Soc Exper.Biol & Med 47 249 251 June 1941
The data obtained in the study indicate that a sharp lower ng of the blood pressure produced by mild procedures in unanesthet zed dog under near basal condit ons s opposed by reflex l beration of adrenal n
When the adrenals are demedullated le ser amount of a substance a ting qualitatively and quant tatively like adrenalin on both the denervated heart and the denervated inte t e still ent rs circulation
This substance is probal ly sympathin produc d primarily by excitatory adrenergic nerves wh ch are re flexly activated to compensate for the low blood pressure
Howev r this sympatl omimetic ubstance does not poss s the pecul ar properties attrib ted to excita tory sympathin by the theory of Cannon and Rosenbluth it cannot be d st nguished from adrenalin it elf by the test of jects u ed
Tables

YOUNG C A Hypotension i av ation w th evi w of 159 fatal crashes
L S.Nav M.Bull 39 222 235 April 1941
In 159 f tal crashes 73 pilots (45 9%) man fested some form of hypotens on Of these 73 hypotensives the off cial cause of fatal crash was stated to b due to error of the pilot n 6 (85 6%) If hypotension is pre sent and the ind vidual concerned i unable to increase the diastol c pressure above 70 mm o standing this should be taken as a unfavorable sign for aviation The hypoten ive does not have an eff ci nt phys olog c reserve to withstand centrifugal force

YOUNG R H Associat on of postural hypotensio with sympathet c nervous ystem dysfunction c se report with review of neurologic features as ociated w th postural hypoten ion
Ann.Int Med 15 910 9 6 No 1941
A review of the literature reveal that ne irologic fe atures are quite common n cas s of postural hypo tens on In recent year there has been an increasing interest in the possibility that post iral hypotension is a manife tat on of dysf inction of the symp thetic nervous system
A case s reported wh ch show linic l feature of bradyk net c type of parkin onian syndrome associated with marked postur l hypotens on and other man festations of sympathetic nervous system dysfunction
As a result of pharma ological experience n this case t i suggested that the best method of therapy is one wl ch pro luces sympathetic st mulation with ephedri ie or ben edr ne and parasympathet c inhib t on by drugs of the atropine group
Tables

YOUNG W.J BREINL A (et al) Effect of exercise and humid heat upon pulse rate blood pressure tem perature and blood concentration
Proc.Roy Soc Lond s.B xc III 126 1919 1920
Expcr ments w re ca ried out n Townsville Australia during the months when the wet bulb temperature was 75 to 80° F a d dry bulb temperature 80 to 90° F with high humid ty
Vigorous exercise of short durat on caused (a) ncrease in pulse rate and blood pressure both of which rapidly fell to normal after d scontinuation of exercise (b) increase of carbon d ox de percentage of alveolar a r
2 Alveolar a r at r st in inhab tants of tropical Queensland howed lower CO content than European average

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3 Prolonged exercise led to rapid increase in pulse rate and temperature at first increase becoming more gradual afterward and in the case of blood pressure it even fell on occasions below normal because of profuse sweating Prolonged exercise had little effect on alveolar air Body temperature during exercise continued to rise slowly but considering the light nature of the exercise the rise in temperature was considerable

4 Considerable loss of water from the body way observed as the result of prolonged exercise

5 Hot room experiments gave results similar to those caused by prolonged exercise with this difference that the pulse rate and body temperature rose more gradually at first but a wuicker rise took place afterwards

6 The results point to the fact that both exercise and humid heat play a part in producing a rise in blood pressure pulse rate and rectal temperature Degree of rise however is controlled by atmospheric conditions which influence the rate of cooling of the body

Tables

ZEISS F R & BRAMS W A Effect of nitroglycerin (glyceryl trinitrate) amyl nitrite and acetylcholine
Am.Heart J 5 300 304 Feb 1930

A series of patients with hypertension and renal involvement were given nitroglycerin amyl nitrite and acetylcholine after the blood pressure was previously reduced to a fixed level by bed rest diet and limitation of fluid intake The results were controlled by a study of a similar series of normal persons

1 Nitroglycerin gr 1/50 produced a fall in blood pressure in all normal controls this effect was inconstant in patients with hyperten ion

2 Amyl nitrite caused a fall in pressure in the controls and hypertensive cases in every instance

3 Reaction in the form of a temporary rise to a level above that existing before the administration of the drug occurred in a large proportion of the cases with hypertension receiving amyl nitrite or nitroglycerin The control cases receiving nitroglycerin showed a similar reaction rise but not those after amyl nitrite This rise may be of some clinical value in cases of impending or actual cerebral hemorrhage

4 The effect of amyl nitrite in the doses used was much more marked and lasted almost as long after nitroglycerin but headaches vertigo and flushing were more marked after the former drug

5 Acetylcholine was found to be inert in both the controls and the cases of hyperten ion

Tables

ZINZI F & HOWARD W Malignant hypertension associated with unilateral renal atrophy
Clin Proc Child.Hosp Washington D C 3 1 7 Dec 1946

This is a case study of an 8 year old brought to the hospital because of a severe headache and a convulsion Further examination di closed a chronic pyelonephritic kidney (small atrophic non functioning Bright kidney) The postoperative course was characterized by the rapid disappearance of the presenting symptoms The blood pres ure was not immediately lowered but the results were encouraging

A discussion of the case by Howard follows He suggests that the syndrome of malignant hypertension associated with kidney disease is an uncommon occurrence in pediatric practice Extirpation of the diseased kidney was the most desirable therapeutic procedure

In dealing with children it is difficult to estimate the length of time necessary for persistent hyperten ion to produce irreversible changes Simply because of the age factor the underlying pathology is usually of fairly short duration in childhood It i suggested that the prognosis for the relief of hypertension of unilateral renal disease in children may be exceptionally good as compared to the equivocal results so far obtained in adults

A serious problem standing in the way of a permanent good result is persistent urinary tract infection which remained a great danger to the functional efficiency of the one remaining kidney If an infection persists subsequent damage to this kidney may nullify the improvement so far ob erved Final elimination of this infection appears to be essential to the continued management of this child

Plate